

The Mining Journal

RAILWAY AND COMMERCIAL GAZETTE

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

No. 1756.—VOL. XXXIX.

London, Saturday, April 17, 1869.

STAMPED ... SIXPENCE,
UNSTAMPED...FIVEPENCE

MR. JAMES CROFTS, STOCK AND SHAREBROKER,
NO. 1, FINCH LANE, CORNTHILL.

(Established 1842.)

MR. CROFTS transacts business in the way of PURCHASE OR SALE of every description of stocks, but particularly BRITISH MINES, at net prices. All orders meet with the utmost punctuality, and advice given as to the nature and eligibility of INVESTMENTS when required.

GREAT ROYALTON.—The operations at this mine, as will be seen from the agent's report, are being pushed on with all dispatch, and rich tin-stuff is being raised from the engine-shaft. Another shaft is in course of sinking on the great north lode, respecting which Captain Parkyn writes:—"I am making a shaft on the great lode, 150 fms. from the engine-shaft, and I expect to cut it every day. If we cut the lode rich here the mine will be ten times more valuable than ever reported. The reason of my doing this is, since I came home from London I have found some very rich stones of tin on the run of this lode, and I am confident we have a splendid lode here." The shares have again advanced, and are now £5s., but they cannot long remain at this low price.

MR. JOHN BUMPUS, 44, THREADNEEDLE STREET, has FOR SALE the following shares, free of commission:—
55 Anglo-Brazilian, 9s 3 5 Herodfoot, £47.
20 Brynpostig, 35s. 9d. 15 Marks Valley, £87.
20 Chiverton, £2 18s. 9d. 20 Min. Bottom, £3 8s. 9d
15 Chiverton Moor, £3 13 5 No. Levant, £10 4s.
50 Carn Camborne, 11s. 50 No. Treskerby, 16s 9d.
100 Chontales, 27s. 9d. 25 New Lovell, £2 5s.
50 Don Pedro, £4 9s. 15 Penhalls, £6 4s.
10 East Caradon, £7 1/4. 25 Pestarena, 23s. 6d.
15 East Lovell, £5 18s 9d 50 Port Phillip, 31s.
25 E. Grenville, £5 11s 3 25 Prince of Wales, 24s 3
100 Frontino, 22s. 9d. 50 Rossa Grande, 25s. 6d.
10 Great Laxey, £19 1/2. 100 Scottish Australian, 20s. 6d.
35 Gt. North Laxey, 26s. 20s. 6d.
50 Gen. Brazilian, 14s 9d 50 Sao Vicente, 6s. 6d.

MR. WILLIAM WARD, STOCK AND SHAREDEALER, NO. 29, THREADNEEDLE STREET, LONDON, E.C.

MR. THOMAS SPARGO, STOCK AND SHAREDEALER, 224 & 225, GRESHAM HOUSE, OLD BROAD STREET, LONDON, E.C.

JOHN RISLEY, (SWORN) STOCK AND SHAREBROKER, 48, THREADNEEDLE STREET, LONDON, E.C.

Bankers: London and Westminster, Lothbury.

MR. THOMAS THOMPSON, MINING OFFICES, 12, OLD JEWRY CHAMBERS, LONDON, E.C.

MR. J. B. REYNOLDS, STOCK AND SHAREDEALER, ETHELBURGA HOUSE, BISHOPSGATE STREET WITHIN, E.C.

Established Eleven Years.

Bankers: City Bank, London, E.C.

MR. JAMES HUME, STOCK AND SHAREDEALER, 74, OLD BROAD STREET, LONDON, E.C.

Has BUSINESS in—
20 Chiverton, £3. 20 Uny, £27s.
5 Wt. Chiverton, £50 1/2. 50 Crebun, 11s.
50 Prince of Wales, 24s 6 50 East Grenville, £5 1/2.
10 Great Vor, £17 1/4. 50 Grenville, 51s. 6d.
50 Chontales, 28s. 20 East Caradon, £7 1/4.
50 No. Treskerby, 17s 6d 50 So. Condurrow, 29s 6d.
20 W. Drake Walls, 6s 6d 20 West Basset, 37s.
J. HUME's "Circular" for April is now ready, and should be consulted by all before investing. Bankers: The London Joint-Stock Bank.

MR. J. H. COCK, STOCK AND MINING SHAREDEALER, 74, OLD BROAD STREET, LONDON, E.C.

Fifteen years' experience in Cornwall and London. Business transacted in all the leading market mines, also in those requiring negotiation.

J. H. C., having visited Cornwall recently, is, from his sources of information, prepared to advise his clients what they should buy, sell, or avoid.

SPECIAL in the Great Northern Manganese Company (Limited), also in Boscean, New Lovell, Wheal Owles, South Condurrow, East Carn Brea, North Levant, and Ding Dong.

MR. T. ROSEWARNE, 81, OLD BROAD STREET, LONDON, E.C.

T. R. has BUSINESS in the following mines, at close market prices:—
Devon Consols. East Caradon. West Drake Walls.
Drake Walls. Prince of Wales. West Seton.

FRONTINO AND BOLIVIA.—No doubt many of my friends will realise at present prices, 20s. to 22s., after buying them at 8s., although at the same time I believe the shares will go much higher.

I can recommend a few mines which will, in my opinion, pay as well as the Frontino has done. I advise the purchase of Buller shares at £9 to £10, and now they are £18 to £20, and very likely to go to £100 if the lode is cut good at the junction at Hooker's shaft. The stopes are worth now £30 to £35 per fathom. These shares have been £1100 per share, and why not again?

BEDFORD CONSOLS shares should be bought at present price, 14s. to 16s., and only in 4000 shares, with ample machinery on the mine, where £12,000 has been spent. There are no liabilities, but money in hand to go on with, it is rarely such an opportunity offers. Before parties purchase they should send an agent to inspect the mine.

CHIVERTON MOOR shares are flat, £2 1/2 to £2 3/4, as it is thought by some parties that the lode is cut in the north cross-cut at Cloggs' shaft; I am of opinion it is not. The old lode has very much improved (see agents report in the Journal). Shares should be bought.

CHONTALES.—I am a SELLER of these shares for time on, below market price.

Money advanced to any extent on good mining shares.

Office hours Ten to Four. Bankers: Bank of England.

MR. E. J. BARTLETT, STOCK AND SHAREDEALER, NO. 30, GREAT ST. HELEN'S, LONDON, E.C., has SPECIAL BUSINESS in West Godolphin, North Summit, Hill, North Pool, South Condurrow, South Merlin, New Lovell, North Levant, Bryn Gwilog, East Rosewarne, East Lovell, Speare Moor, East Carn Brea, North Treskerby, Wheal Agar, and Caldebeck Fells.

Holders of Stock in Caldebeck may find purchasers on application to the above.

* SOUTH MERLLYN.—E. J. B. directs special attention to the report published this day in these columns. At present prices the shares are specially recommended, and should be bought at once.

WEST GODOLPHIN, NORTH POOL, and SOUTH CONDURROW.—Having recently inspected these mines, I shall be happy to furnish any information relating to present and future prospects.

BUYER OF West Godolphin, Wheal Agar, Great South Chiverton, and Caldbeck fells shares.

MR. WILLIAM MARLBOROUGH, 1, GREAT ST. HELEN'S, BISHOPSGATE STREET, LONDON, E.C. (Established 14 years), has FOR SALE the FOLLOWING SHARES, at net prices:—

50 Anglo-Brazilian, 7s 9d. 50 Gen. Brazilian, 4s 9d. 100 Santa Clara, 1s. 9d.

25 Brynpostig, 32s. 6d. 20 Gt. No. Laxey, £1 1/4. 50 South Merlin, 1s.

20 Don Pedro, £2 5s. 20 Great Vor, £17s.

30 Drake Walls, 21s. 3d. 10 New Lovell, £2 16 3d 50 Wheal Chiverton, £2.

25 Chontales, 28s. 5 No. Levant, £10 4s.

15 Chiverton, £3. 50 Tamar Valley, 13s 6d.

2 Cwm Darren, £2 1/2. 10 No. Treskerby, 16s 9d.

10 East Caradon, £7 1/4. 15 Postarena, 22s. 6d.

5 East Lovell, £9 1s. 30 Prince of Wales, 24s 3d.

15 E. Carn Brea, 9s. 6d. 50 Redmoor, 4s. 9d.

50 Frontino, 21s. 6d. 10 Rosewall Hill, 3s 9d.

BUYER of South Darren, Great South Tolgs, and Providence.

MR. GEORGE BUDGE, STOCK AND SHAREDEALER, NO. 4, ROYAL EXCHANGE BUILDINGS, LONDON, E.C. (Established 20 years), is a SELLER at net prices of:—

100 East Chiverton, 25s. 100 South Herodfoot, 25s.; 50 Prince of Wales, 23s. 9d.; 60

West Grenville, £2 1/2; 85 Lovell Consols, 15s.; 100 South Grenville, 5s. 3d.; 3

West Chiverton, £2 1/2; 40 North Treskerby, 18s.; 50 West Godolphin; 20 Wheal

Grenville, 4s. 6d.; 100 North Jane, 12s.; 150 Tin Valley, 80 South Carn Brea, 11s.; 5 Great Vor, £18s.

20 Great South Laxey, 22s. 2d.; 35 St. John del Rey; 50 Tamar Valley, 13s 6d.

2 Wheal Bunter, £19s.

100 West Levant; 100 North Levant; 100 Gwydir Park, 3s. 6d.; 40 Ped-

an-dreys, £5; 120 West Prince of Wales, 5s. 6d.; 5 Polberrow, £6; 50 Tamar

Valley, 12s.; 90 Redmoor, 4s. 6d.; 12 Macs-y-Safn, £20; 8 Imperial Mining;

45 Cudra, 36s. 9d.; 150 Anglo-Brazilian, 9s. 9d.; 300 Taquaril; 150 General

Brazilian.

SPECIAL BUSINESS in the Van Mine.

CORNISH AND FOREIGN MINES—
TO SHAREHOLDERS AND OTHERS.

PETER WATSON'S "WEEKLY MINING CIRCULAR AND SHARE LIST—
SYNOPSIS OF CORNISH AND DEVON MINES," of Friday, April 16, No. 528, Vol. XI, priced, each copy, forwarded on application, contains information on the following mines:—

The Van. Wheal Trelawny. East New Lovell.
Great Wheal Vor. West Wheal Frances. Cook's Kitchen.
North Wheal Crofty. West Drake Walls. West Great Work.
East Wheal Seton. Great Western. South Great Work.
East Wheal Lovell. New Wheal Lovell. Drake Walls.

With Special Notice on the Great Rock Lead Mine, and Remarks on the Tin Trade, &c.

INVESTMENT OR SPECULATION.—A SELECTED LIST OF
RAILWAYS, BANKS, MINES, COLONIAL SECURITIES, FOREIGN
GOVERNMENT BONDS, &c., forwarded to bona fide investors on application.

In addition to the high rate of interest many of the above are paying, there is now every probability of a great rise in market value.

PETER WATSON, STOCK AND SHAREDEALER,
79, OLD BROAD STREET, LONDON
(three doors only from Hercules-passage, entrance to the Stock Exchange).

Twenty-four years' experience.

Two in Cornwall and Twenty-two in London.)

Bankers: The Alliance Bank, and the Union Bank of London.

References given and required (when necessary) in all the principal towns of the United Kingdom.

THE LONDON DAILY RECORD—STOCK AND SHARE
LIST—STOCK EXCHANGE SECURITIES. Published every evening at 5 o'clock. It contains the latest prices of railways, banks, mines, foreign stocks and bonds, financial, insurance, and miscellaneous shares, remarks on the daily rise and fall in prices, with advice as to purchase and sales. Annual subscription, £1 1s.; by post, £2 5s.; monthly subscription—by post, 4s.; single copy, 1s.; by post, 2d.

PETER WATSON, Stock and Sharedealer, 79, Old Broad-street, London.

MR. EDWARD COOKE, STOCK AND MINING SHAREDEALER, 76, OLD BROAD STREET (and Mining Exchange), LONDON, E.C.

Shares in all the dividend and best progressive British mines dealt in.

The prospectus of the Great Rock Lead Mine to be had on application.

References given.

Price-list sent free on application.

Bankers: Alliance Bank.

MR. W. H. CUELL, NO. 42, CORNHILL, LONDON, E.C.

MR. G. D. SANDY, STOCK AND SHAREDEALER, 48, THREADNEEDLE STREET, LONDON, E.C.

Daily Price List on application post free. References exchanged.

MR. WILLIAM SEWARD, STOCK AND MINING SHARE BROKER, 19, THROGMORTON STREET, LONDON, E.C.

Every description of shares BOUGHT and SOLD at the best market prices.

Established Twelve Years.—Twenty-four Years' Experience.

MR. F. W. MANSELL, 44, THREADNEEDLE STREET, LONDON, E.C., has the following SHARES FOR SALE, for cash or account, at net prices:—

15 Chiv. Moor, £3 8s. 9d. 15 Gt. Laxey, £19s.
50 Chiverton, £3 1/4. 15 New Lovell, £2 16 3d 3 Wheal Seton, £6 7s.
50 Drake Walls, 22s. 6d. 50 North Downs, 12s. 6d. 65 Cape Copper, £13.
17 East Grenville, £5 1/4. 75 No. Treskerby, 18s. 6d. 15 Chontales, £1 10s.
55 East Caradon, £7 1/4. 150 Prince of Wales, 100 Gen. Brazilian, 16s 6d
5 East Bodmin, £7 1/4. 60 Redmoor, 4s. 6d. 10 St. John del Rey, £18s.
10 Great Vor, £17 1/4. 35 So. Condurrow, 32s. 100 Anglo-Argent., 20s 6d
SOUTH CONDURROW.—With reserves of tin, worth over £20,000, already discovered, surely it is time to BUY the shares. At present price the mine is selling for £9500. Within six months the reserves will be valued at twice the above amount.

Shares may be bought for future payment. Every facility afforded.

Bankers: London Joint-Stock Bank.

INVESTMENT FOR CAPITAL.

MR. F. W. MANSELL, in February, 1868, under this heading, recommended the under-mentioned mines for immediate purchase:—

Wheal Emily Henrietta, at £10, present price £20, have been £40.

New Wheal Lovell, at 20s., present price 55s., have been 70s.

Again, in October, 1868, the following were strongly recommended for immediate purchase:—

East Caradon, at £2 1/2, present price £7 1/4, have been £10.

North Treskerby, at 7s. 6d., present price 17s. 6d., have been 20s.

Great Redlack, at £2 1/2, present price £2 1/2, have been £2 1/2.

South Condurrow, at 10s., present price 30s., to 32s. 6d.

There is no class of investment pays so well as British mines if judiciously selected. To command this, competent practical agents are retained by Mr. F. W. MANSELL to specially report upon all promising mineral properties in the United Kingdom.

To be had on application, a Selected List of Mines,

Original Correspondence.

COAL-CUTTING MACHINERY.

SIR.—After seven years of arduous labour, and much expense in the prosecution of this object, and having demonstrated that coal can be cut by machinery with real advantage to the labourer, the coal owner, and the public at large, I am surprised to find that there is even one man who is willing to take from us, if he could, the credit which we believed ourselves entitled to. I refer to Mr. Joseph Rothery, whose letter appeared in last week's Journal; and although it is far from my intention to enter into a newspaper controversy with him, I do feel called upon to give a brief narrative of the origin and progress of the invention, so that your readers may form an opinion of the spirit which moves him. It is necessary that I should go back to the year prior to the date of our patent, at which time Mr. Rothery was the "bottom steward" at our West Ardsley Colliery. He represented to me that he and the late Mr. Ridley had invented a machine, which with two men would cut as much coal as could be done by sixteen men in the ordinary way, and we believed him. We entered into an agreement with them for the possession of that patent, undertaking to pay all the expenses, past and future, and to give them 20 per cent. of the profits, not only from their own machine, but of any other inventions of which we might become possessed, Mr. Donisthorpe having at that time obtained a patent for a coal-cutter, on the principle of the "straight action." The machine of Ridley and Rothery was to be worked by *manual labour*—the turning of a wheel, whereby a strong spring was coiled and released alternately, thus causing a blow to be struck on the face of the coal by a pick; and although Mr. Ridley's name is in the patent, Mr. Rothery claims to be the originator. Mr. Ridley was a clever mechanic, and we took him into our service, giving him a liberal salary, and we appointed him to be the head engineer at our works. The machine which had been patented by himself and Mr. J. Rothery was ordered to be made ready. Many preliminary trials were made of an unsuccessful nature, and after all was done that could be done to make it work the final result was that I could cut more coal with my penknife than could be got by that remarkable "invention." It was cast out among the other unsightly rubbish of the colliery, and there became an object of derision and contempt through a wide-spread population, whose expectations had been much excited by those "sanguine inventors," and we were upwards of 500/- out of pocket. The total failure of the invention, and its utter worthlessness, put an end to the claim made by a gentleman of the name of George Alfred Mellin, who alleged that the invention was his; and he complained bitterly of the conduct of Messrs. Ridley and Rothery—so much so, indeed, that if any profit had been realised by us we should have been prepared to make him some compensation for his disappointment.

This was the condition of things when the idea of a *compressed air* coal-cutting machine originated, and a patent was obtained by Messrs. Donisthorpe, Firth, and Ridley, No. 2977, Nov. 26, 1861. Mr. Rothery had no connection with that patent; he was not a necessary party to it, and except in the course of his duty as a servant of the firm, carrying out instructions given to him, he had done nothing, and was not entitled to be associated with us in the patent. Mr. Ridley, as I have before said, was a good mechanic, and we placed in his hands the superintendence of the construction of some trial machines, and made him responsible for the work, but the introduction of the compressed air was entirely my own, and any statement to the contrary which was wholly unfounded.

This invention when put to trial was exceedingly satisfactory, and seemed to open out the prospect of a great success. It had some deficiencies, as might reasonably be expected in such an undertaking, and those requirements have been supplied by the subsequent patents of myself and Mr. S. Firth. The results inflated the minds of Messrs. Ridley and Rothery. They disposed of their interests with us for very large sums of money, and one, or both, of them became associated with Mr. James Grafton Jones, who had been the draughtsman at the office of our patent agent in London, and entered into an active competition with us, doing all in their power to render valueless the invention which had been to them a source of so much profit, realised by the sale of their shares with us.

I certainly understood that Mr. Rothery did not think favourably of the compressed air-power, and he afterwards took out a patent for driving a coal-cutting machine by horse-power, in a similar manner as the donkey draws water out of the well at Carisbrook Castle. This invention was intended to supersede the compressed air machine at West Ardsley. It has been tested I believe, but the world is kept in ignorance as to its merits. As Mr. Rothery has now for the first time, and after seven years have elapsed, presented himself as one of the inventors of the compressed air-machine, it would indicate that he has failed again. The closing paragraph of Mr. Rothery's letter runs as follows:—

"But to return to the point—that is, the inventors of this *original* successful coal-cutting machine—I can say with truth that I was the originator of the machine at the West Ardsley Colliery; and I can say, without fear of contradiction, that the late Mr. Ridley and I invented the first coal-cutting machine put to work with success at the above colliery, and we also successfully applied the motive-power machinery which is so well adapted for underground work, and has since almost come into general use. I might also add that it was from the above arrangement of air-compressing machinery that Mr. Jones took the advantage."

And I append copy of the declaration lodged at the Patent Office on the application for the patent, and subscribed to by Mr. Ridley. He is now dead, but this declaration must be regarded as his evidence in the case:—

[COPY.]

"We, George Edmund Donisthorpe and William Firth, of Leeds, in the county of York, merchants, and Robert Ridley, of Leeds, aforesaid, engineer, do solemnly and sincerely declare that we are in possession of an invention for improvements in machinery and apparatus for working coal and other minerals, which invention we believe will be of great public utility, and that we are the first and true inventors thereof, and that the same is not in use by any other person or persons to the best of our knowledge and belief, and we make this solemn declaration conscientiously believing the same to be true."

I shall make no further comments upon this part of the case, and it is scarcely worth the while to allude to any other statement in his letter. I would, however, caution your readers not to be misled by the mere statements of inventors of coal-cutting machines. Nothing can be more preposterous than the calculations which they have put forward, and from my own experience I advise those who take an interest in the matter to see the work done. The West Yorkshire Company have kindly given us permission to admit on any day our passes to enable parties to see the machines at work, and anyone can obtain a pass by applying at 15, York-place, Leeds.

As to "the limit of capacity," I may say that one of the two machines now working at West Ardsley has cut 1012 tons in one week, and the same machine can cut a groove 28 in. deep and 50 yards long in 60 minutes. Still I only rate them at 750 tons per week, which each of these machines would now be doing if we had room enough for them. Additional space, however, will shortly be available.

WILLIAM FIRTH.

GEOLOGICAL NOTES ON COAL—No. I.

To many persons my subject may appear to be singularly commonplace, but I have lived long enough in the world to know that some of our commonest objects have a fund of interest which the thoughtless and uninquiring never dream of. No doubt coals of various kinds are common enough, but, common as they may be, they are our British Diamonds, and more valuable to us than hoards of Kohinoors, and which make our beloved Victoria, "the Queen of the Seas." But we do not by any means wish to indicate by these remarks that we have anything startling or remarkably new to ventilate touching these gems which lie beneath British soil. Nothing that I may advance may be new to the intelligent geologist, yet I hope that my remarks may not altogether be unworthy of his notice.

In answer to the question, Where is coal to be found? any school boy knows that coal is found at various depths in the bowels of our mother earth. It is worked at a depth of more than 600 yards beneath the surface; and we have substantial reasons for believing that it extends to a much greater depth than that; but beyond a depth of 1000 to 1300 yards it could not be obtained without meeting almost insuperable difficulties—difficulties of temperature which no system of ventilation, however perfect, could entirely obviate—difficulties in practical mining which the produce would not pay for the removal thereof. In some of the Lancashire, Cheshire, and

Durham mines coal is got at a depth of nearly 700 yards, and in some parts of Durham and Cumberland coal workings are actually extended far beneath the waters of the ocean.

But deep as coal is known to exist in the bowels of the earth, geology tells us that once it rested on the surface (but of course in a very different condition), and was bathed in the sun-light and moistened by the rain and dew. But coal is sometimes seen near the surface—"cropping out," as it is called, on the sides of railway cuttings and valleys.

As to the condition in which it is found, it is invariably seen in the form of beds or seams, and never in that of veins, as in the case of many of the metals. It is never thrown up into mountain masses, irregular and distorted like the granitic, trappean, or volcanic rocks, but spread out in regular beds, varying from a few inches to a few feet in thickness. These beds of coal are numerous in many places and lying one upon another, each bed being separated by strata of shale, sandstone, clay ironstone, or limestone of variable thickness. The areas where the coal beds are deposited sometimes take the form of a basin or trough, and consequently they are often called coal basins.

Then as to the geological position of coal, or the place it occupies among the rocks composing the earth's crust, it is principally found in what is called the carboniferous formation, and forming the uppermost member of that system. But other geological formations can boast of coal as well as the carboniferous. There is coal in the oolitic formation, which lies above the new red sandstone. The coal worked at Grinsthorpe, near Scarborough is oolitic coal. So is the coal in some parts of America, East Indies, and Australia. But there is coal of a more recent date than that, belonging to the tertiary formation, the highest system of rocks. In fact, there are coals of all ages and of all quantities, but the great bulk of the coal in this country and of nearly all Europe and America is of the carboniferous age. The various members of the carboniferous formation (to give them in their descending order) are:—The upper or true coal measures; millstone grit; mountain limestone; carboniferous slates, or lower coal measures. All these members are not everywhere found or developed to the same extent in every coal district. In some localities, as in the North of England, there are no lower coal measures; while in other districts you find no millstone grit. But whatever members of this system are present, they are never out of place, and a higher rock is always found overlying a lower. Millstone grit is sometimes called "farewell rock" by miners, because when they reach that group of deposits consisting of conglomerates and coarse and siliceous grits they do not expect to find any productive coal beds. It used to be believed that coal would not be found continuous beneath the magnesian limestone and lower new red sandstone, the members of the Permian formation, but that idea is now dispelled by facts—by the discovery of rich beds of coal beneath the Permian strata. And I should not be surprised if subsequent explorations should prove that the Cumberland coal field underlies the red sandstone measures that prevail north of Maryport.

As to the various coal fields of Great Britain, their extent, their resources, and other peculiarities, my limits and object will not permit entering into details.

Our largest coal field is that of South Wales, calculated to cover an area of nearly 2000 square miles, containing more than 20 coal seams, and yielding a thickness of more than 80 feet of workable coal. There is one peculiarity in this coal field to which I beg to call attention. If we draw a line from north to south across this coal field from Swansea to Merthyr, we shall find that on the western side the coal is a kind of stone coal or anthracite, of which I shall have something more to say, while on the eastern half the coal is nearly all bituminous or gaseous. And how is this singular fact to be accounted for? We know that in the close neighbourhood of dykes containing volcanic matter, the coal sometimes becomes anthracite, but in this special instance we are told there is no indication of volcanic agency whatever. The beds are but slightly thrown out of the horizontal position. Heat, whether from the interior of the earth or from chemical action, would be sufficient to account for this change in the coal deposits, providing there was room for the escape of the volatile or gaseous elements of the coal.

The South Staffordshire coal field is not large, but remarkably productive, and yields more iron than any other district of the same extent. In this field there is a notable seam, called the "Ten-yard" or "Thick Coal," having a general thickness of 30 feet. This is not, however, one continuous seam throughout the whole of its area, but composed of several seams, resting one upon another, with thin partings of shale.

But leaving the general characteristics of the coal field, I will write a few words respecting the fractures or faults which often traverse the coal measures. My remarks, however, on that subject must stand over till next week.

M. A. MOON, F.G.S.

HAULAGE OF COAL, AND TRANSPORT OF MINERAL.

SIR.—Mr. Hodgson being on the Continent, surveying ground for constructing some of the company's lines, is unable this week to answer the questions put forward by your correspondent, "H. K. B." It may, however, be satisfactory to that gentleman to know that an appointment has been made with Mr. Emerson Bainbridge, the writer of the report on the Haulage of Coals, to meet Mr. Hodgson at Leicester, and to enquire into and experiment on our system. Mr. Bainbridge will doubtless make public his investigations.

M. BEALE, Secretary.

Wire Tramway Company, Gresham-street, London, April 13.

MINERAL WEALTH OF IRELAND—No. I.

ON THE APPLICATION OF THE SURPLUS REVENUE OF THE IRISH CHURCH TO THE DEVELOPMENT OF IRISH MINING.

SIR.—In the winter of 1867-8 I employed some of my leisure time in writing a series of letters on the "Present Condition of Ireland," which appeared anonymously in an influential English provincial paper, and as it seemed to me that a more active development of the great mineral resources of that country must constitute an essential element of its future prosperity, I ventured to sketch the outline of a plan which promised to facilitate that desirable result. You, Sir, were pleased to notice with some approval the general features of this scheme, and as an extraordinary conjunction of political circumstances at this moment renders perfectly feasible what only a year since might to many have appeared impracticable, I will, with your permission, return to the subject, in the hope of enlisting the support, or at least attracting to it the attention of men better qualified than myself to think and act for the benefit of this important section of the United Kingdom.

The general proposition which I shall seek to establish is this—that the surplus remaining in the hands of the State from its proposed acquisition of the property of the Irish Church will, as regards the permanent interests of the mass of the Irish people, be much more beneficially applied to the development of Irish mining industry in the manner proposed than if devoted to the various charitable purposes specified in the Government Bill. The amount of this surplus is estimated at about seven millions sterling, and Government propose that this be applied—

"Under the management and control of the Poor Law Commissioners for Ireland to the following purposes—viz., the support of infirmaries, hospitals, and lunatic asylums, in exoneration of the Grand Jury cess, the support of reformatory and industrial schools, the salaries of trained or skilled nurses for poor persons in sickness or in labour, the suitable education and maintenance of the blind and of the deaf and dumb poor, and the care, training, and maintenance of harmless idiots."

The "remedial measure" which I had suggested before the proposed disestablishment of the Irish Church had been submitted to Parliament was thus stated:—

"As regards the minerals of Ireland, then, I venture to suggest—1. That the Crown obtain from Parliament the requisite powers to purchase all manorial and other rights to minerals, so that all the royalties in the island shall henceforth be vested in the sovereign.—2. That for this purpose, and for superintending the future working of Irish minerals, a permanent Board of Commissioners be appointed, and have their office in Dublin.—3. That with regard to mines now in course of exploration, the value of each royalty be determined by the amount of dues or rent actually received by the lord of the manor on an average of — years; and that where no mines are being worked the present lords of manors shall participate to a certain extent in any dues that may be received from minerals worked during the next — years.—4. That all existing leases be respected, and on their expiration a prior option of renewal on new conditions be given to those who hold them.—5. That a new code of mining laws be at once prepared for Ireland, defining the conditions on which permission to search for and work minerals will hereafter be granted by the Crown, and settling on an

equable basis, and in a spirit favourable to mining enterprise, all questions likely to arise between mining lessees and the owners and occupiers of the soil."

The purely political aspects of the questions involved I cannot, of course, here attempt to discuss, nor should I, perhaps, have presumed to present the opinions of a private individual against those of professed statesmen, had not so competent a critic as the *Mining Journal* in some degree endorsed the idea thus crudely enunciated. For on a subject of this kind it is obviously possible that a journal which stands aloof from all mere party motives and influences may arrive at conclusions more just and logical in themselves, and more consistent with the highest interests of the nation, than the ordinary exponents of the views and feelings of rival statesmen. The remark of the late Fuad Pasha in reference to the Eastern question may, indeed, not inaptly be applied to the Irish problem now awaiting solution—that it is a matter of economics rather than of politics. And this opinion has been largely shared by many of the soundest patriots and brightest intellectual ornaments of Ireland. The creation of an Irish industry, which should provide more remunerative employment for the mass of the Irish people, and thus build up step by step, on the solid basis of individual comfort and contentment, a social fabric around which might cling the proudest hopes and fondest aspirations of a high-spirited race, this was the great object which Grattan and his compatriots had in view when, nearly a century since, extorted from the English Parliament the abrogation of a series of enactments directed against the nascent manufactures of Ireland. And to this day the deserted "Linen Halls," and other evidences of decayed industrial arts, are often pointed out to English visitors as fruits of misrule. But all experience shows that the exploration and working of the minerals of a country is the first step towards manufacturing success, as they either supply the raw materials of manufactures, or directly or indirectly create a demand for various industries. And if it can be shown that the mineral wealth of Ireland has been comparatively neglected, and that a judicious system of legislation on this subject, backed by the command of a sum not exceeding that accruing to the State from the disendowment of the Irish Church, would give an immense stimulus to Irish industrial pursuits, and so tend to ameliorate the condition of the Irish labouring classes, and to the general welfare of that country, the responsibility of having allowed the present opportunity to pass must rest with those who possessing the power to inaugurate a better state of things have failed to use it. In short, the manner in which this surplus is applied for the benefit of the Irish people, the avowed object of the Government, may be regarded as a crucial test of the spirit in which Irish legislation is in future to be conducted.

[To be continued in next week's Journal.]

MINERAL WEALTH OF IRELAND.

SIR.—May I respectfully request you will be good enough to allow me to state, through the Journal, that I am in a position to indicate at any moment the exact spot in the county of Dublin in which a lead mine lies. I have good reason to believe that this mine would prove not only productive but highly remunerative to any party of sufficient enterprise to work it. DANIEL RYAN, Miner.

Luganure Mines, Rathdrum, Wicklow, April 9.

THE TIN SPECULATION.

SIR.—The price of foreign tin having been advanced 50/- per ton in the past six months, and having receded 12/- in the past six days, it becomes an object of importance in the interest alike of consumer and producer that the situation should be fully discussed and examined, with a view to ascertaining if such an advance is warranted by statistics, and if on the (only true) basis of consumption and supply it is probable that existing prices can be maintained or otherwise. The following figures, which represent the combined stocks of Banca, Straits, and Billiton afloat and in warehouse—Oct. 1, 1868, 8741 tons; April 1, 1869, 7882 tons—seem to show, by the reduction of stock, that the consumption for the six months was 860 tons in excess of the supply, and it is acting on this apparent scarceness that speculators have been able to force the price to its present fictitious value. This deficiency can be distinctly traced to the short quantity of Banca tin sent to Europe, the sales of 1868 amounting to 3100 tons, against 4874 in 1867 and 7132 in 1866. The official returns of the Dutch Government, however, report the production of 1868 as being only 250 tons less than in 1867, and from the same sources we learn that there exists an accumulated stock of 200,000 slabs (6000 tons) of Banca tin, held ready for shipment in the Government stores in Batavia, of which stock 2000 tons were accumulated in the three months ending Dec. 31, 1868. It would be idle to discuss the motives which may have guided the councils of the Trading Company, but if they seek by withholding supplies to induce higher prices it is not hard to foresee that they must eventually aggravate the evil which they wish to avoid, for when this 6000 tons arrives, as eventually it must arrive, in Holland the result will be a market which must be overstocked and depressed for years. I forbear from discussing the further tendency to lower prices from the inevitable contingencies of the present situation—a checked consumption and a stimulated supply; but the former is already to be recognised in the action of the tin-plate trade (consuming three-quarters of the total production), makers having decided simultaneously to close their works for one week in four; and the latter will, doubtless, be very shortly apparent in an increased supply from the Cornish mines, and in heavy shipments of tin from the Straits, where the production can and will be very rapidly increased. The interest of the consumer will be best studied, under existing circumstances, by retiring from the market, by buying simply from hand to mouth, and by patiently waiting the course of events.—April 14.

CYMRU.

CHONTALES GOLD AND SILVER MINING COMPANY.

SIR.—The advices just received afford the most substantial evidence that those of us who have persistently supported our directorate will eventually be well rewarded by the realisation of a material success. Those who attended the last meeting, at which Mr. Belt was present, will, doubtless, recollect that he based his calculations upon an estimated produce of 5 dwt. of gold per ton, and, upon that computation, he unhesitatingly affirmed that he would personally risk his last shilling rather than forego the further exploration of the property, to which Mr. Belt added that he had been associated with gold mining enterprise in different parts of the world, but in no single case had he ever known another property like Chontales, with regard to which he felt himself justified in expressing an unqualified opinion as to its intrinsic worth. There can be no question, I think, that at the outset of this enterprise the management, impressed with the magnitude of the property, conceived a plan of development comprehensive enough and it might have been practicable enough provided there had been a subscription equal to its completion. This "grand conception," however, as we all know, signally failed, and has been followed by a system which, although less gigantic, is gradually proving to be at once effective and profitable. The wholesome plan to be adopted by Mr. Belt is simply this—to capitalise the revenue of the mines; in other words, to make the returns meet the outlay of development, and thus by gradually increasing the returns extend the scale of exploration, leaving the residue for division among the proprietors. The soundness of this policy has been strikingly proved in the case of the Bahu Mine, the property of the St. John del Rey Company. Like Chontales, the whole of the capital of the St. John del Rey Company was utterly exhausted before anything like satisfactory results were realised. In truth, the case of Chontales compares most favourably with that of the St. John del Rey, and for this reason—that the latter expended the whole of its capital upon the property originally purchased, and subsequently abandoned it as valueless, whereupon the opening out of the Bahu Mine was commenced, and with its own returns continued till it proved to be that magnificent success which made it the envy and admiration of all interested in gold mining enterprise. The case of the Chontales, however, is far more satisfactory than that of the St. John del Rey, inasmuch as, although the capital has been expended, the result is that the mines upon which the outlay has been made are not only not proving unproductive, nor only maintaining the nominal value upon which Mr. Belt estimated profits would be realised, but, in addition to this, the yield of gold per ton of ore is gradually increasing, and (according to the testimony of Mr. Burgess), "the ore both at Conde and San Domingo improves as the levels are advanced into whole ground." The evidence of this is that the produce now is 8½ dwt. of gold per ton, against 6 dwt. some months since, and as the remittance for February amounts to 642 ozs. it may be fairly surmised that already that desirable point has been reached of the monthly cost being met by the monthly returns.

My object in troubling you with this letter is to impress upon my fellow-shareholders the necessity of bearing these facts in mind, and not to be induced to part with their shares by those whose sole object is to get them into their own hands.—April 14.

AN ORIGINAL SHAREHOLDER.

Meetings of Mining Companies.

ANGLO-BRAZILIAN GOLD COMPANY.

The ordinary general meeting of shareholders will be held at the London Tavern, Bishopsgate, on Thursday next, when the sixth report of the directors, embracing the operations of the company for 1868, will be presented.

The reports from Capt. Thos. Treloar, the consulting engineer, and Mr. F. S. Symons, the manager, show results which, the directors regret to say, cannot be considered satisfactory, the expectations relative to the "Minerologia" section not having been realised. Two causes have militated against the success of the company so far—a falling off in the auriferous quality of the stone raised, and an inadequate force. Notwithstanding these drawbacks, however, the gold return for the year has amounted to 39,885 ozt. This produce has enabled the operations to be carried on throughout the year with only a trifling loss, whilst, in Capt. Treloar's opinion, even the present yield per ton, with adequate force, would enable satisfactory results to be obtained. Capt. Treloar also calls attention to the fact that the Fundas section has yet to be explored. The shareholders have already been informed that Capt. Treloar, anxiously bearing in mind the interests of the company, had felt it his duty to recommend the purchase of an additional property, that he had examined and reported upon a jacutinga mine, and that the directors, having every confidence in Capt. Treloar's opinion, had, after mature deliberation, decided to adopt his suggestion. Extracts from Capt. Treloar's report upon this property were circulated in February last, and now, as then, for evident reasons full particulars are withheld. The directors, however, expect very shortly to hear that the terms of purchase have been arranged, and that the title deeds are undergoing examination, when details will be immediately furnished. Capt. Treloar having in February, 1868, concluded his term of office as managing agent, availed himself of the opportunity of visiting England, and during his stay the directors concluded an agreement with him (to act as consulting engineer to the company) for a further period of three years. On Capt. Treloar leaving Brazil the management of the mines was entrusted to Mr. F. S. Symons, who, having been superintendent of the company since its formation, and for many years connected with Capt. Treloar in Brazil, was considered fully competent to undertake the duties. The shareholders will, doubtless, have observed with much satisfaction that Capt. Treloar on his return expressed himself highly pleased with the work done during his absence, and with the state of the establishment generally. The directors think it but right to state that the unsuccessful results obtained so far have been entirely owing to unforeseen circumstances, over which they could have no possible control; but by the purchase of an additional property, and the continuance of an energetic and economical policy, they feel assured that satisfactory results will ere long be obtained.

GREAT LAXEY MINING COMPANY.

The half-yearly meeting of shareholders was held at the London Tavern, on Wednesday,—Mr. G. W. DUMBELL in the chair.

The notice convening the meeting having been read, the accounts (an abstract of which has already appeared in the *Mining Journal*) were taken as read.

The report of the directors was read, as follows:—

The directors have much pleasure in being able to report that during the last half-year no particular change has taken place in the mine, except a continued increase of lead and blende, and although the expenses have increased, the same quarterly dividends, at the rate of 30,000*l.* per annum, continue to be provided by the mine, being at the rate of 50 per cent, on the paid-up capital of the company. The raisings of copper having fallen off arises from a desire to keep the ore in reserve until a better price can be obtained. The shareholders will be gratified to find, from the report of the managers, that there is every reason to expect a continued prosperity of the mine. At the meeting of directors in London, in March, 1868, it was resolved to determine a contract for a large monthly supply of blende to a leading firm of smelters, which was acted upon accordingly. In consequence of which the company became large holders of blende. The directors have much pleasure in stating that the firm attitude taken by them has resulted in sales of large quantities of blende, upon much better terms than the contractors were willing to give, and has been highly beneficial to the company. The attention of the directors has been called to some very unfair attempts to injure the value of the company's property in public estimation by unfounded insinuations as to the unexpired term of the lease of the mine, and the terms upon which it is likely to be renewed. The directors did not think it desirable to gratify the writer of the article referred to by any notice thereof until the general meeting, and they now desire to inform the shareholders that of the lease, which is held from the Crown, five years was unexpired in November last; and as the mines have been faithfully and energetically worked, and various parts of the sott explored without any hesitation as to expense, the directors cannot contemplate any difficulty being raised by the authorities of the Crown in renewing the lease of the mine, when the proper time arrives for an application to that effect.

The manager's report was read, as follows:—

April 12.—In again submitting to you our half-yearly report, we have the satisfaction of stating that the prospects of the mine, as respects the future, are equally as good as they were six months ago. We have completed the alterations in our main rods and pitwork at the main engine-shaft as low as the 190, and the water will soon be in fork to the 220. There are but few alterations now to make, and when these are completed we shall go on sinking the shaft without any further interruption. The lode in the 210, driving north, is 4 feet wide, and worth for lead and blende 50*l.* per fathom. The 200 is also opening out good ground for stopes, worth from 60*l.* to 80*l.* per fathom. In the 190 we have recently cut through the big slide, and owing to the great influx of water we had when it was cut through, our progress in driving the end north has been slow, and this increase of water also accounts for our tardiness in forking the water below the 210. We look at this flow of water coming from the unexplored ground north of the slide as a most favourable indication, inasmuch as it shows that there is open or porous ground before us, and whenever we get such ground we are also sure to have ore; the lode in the end is 7 feet wide, and worth for lead and blende 60*l.* per fathom. The lode in the 180, driving north, is worth 80*l.* per fathom, and this end is now well up to the sump coming down from the 165, in which sum the lode is worth 60*l.* per fathom. There is no change to notice in the 165 fm. level end north; the end being in advance of all other ends in this direction, and the air being impure, we have been obliged to suspend the driving until the sump is holed for ventilation; the lode in the end is worth 70*l.* per fathom. The 155 fathom level end north is worth 80*l.* per fathom, and the 145, on the east vein, has improved, now worth 50*l.* per fathom, thus showing a succession of levels regularly penetrating a run of ore ground, all in whole, going north, worth from 50*l.* to 90*l.* per fm. in height, saying nothing of what there may be below the 210 fathom level or above the 145 fathom level. We have not come upon any change of note in the south or copper ground of the mine during the past half-year. The levels driven, and still in progress, are the 200 and the 60, in neither of which have we yet discovered sufficient ore to pay for driving. The stopes in the roof of the 190 are yielding from 6 to 8 tons of copper ore per fathom, and the three sets of stopes working below the 60, north of the copper slide, continue to be worth for lead and blende from 40*l.* to 100*l.* per fathom. At Dumbell's we have sheathed and timbered the engine-shaft down to the 140, sunk 9 ft. below, and cut out trip lode; the shaft is also again under way, sinking for a new level, and the lode in the bottom is worth 50*l.* per fathom. The 140 is driven south 4 fms.; here the lode is unproductive, but the north level is extended 6 fms., all in good ore ground, the present end being worth 70*l.* per fathom. The 125 north has been driven regularly since the last meeting, through a valuable lode, and the sump from the 110, referred to upon that occasion, has been communicated with this level. Six months ago we stated that we had here laid open 26 fms. in length of rich ore ground; to this we have since added 14 fms., making 40 fms. in all, some of which, near the sump, is worth 150*l.* per fathom, and the present end is worth 80*l.* per fathom. In the 110 we have recently suspended the driving of the level, which is at present poor, and commenced to sink a new sump at the extreme north end of the ore ground; here we have a lode worth 80*l.* per fathom, and this sump is in advance of the present 125 end by about 11 fms. Above the 110 the 60 continues to be driven north. Soon after the last meeting the lode for a short distance became small and poor, but has since opened out, and the end is again worth 60*l.* per fathom. The 50, stated in last general report as about being resumed, has been driven through a piece of ore ground 6 fms. in length, at the north end of which we have this month commenced to sink a sump on a lode worth 60*l.* per fathom. The 60, south of Dumbell's shaft, we have laid open new ground 10 fms. in length, but the end has become poor. We are at the present time sinking a sump to the 70 fathom level, in order to ventilate and lay open the ground for working, in which the lode is at present stated to be worth 60*l.* per fathom. At Agnewash, not having the lode in the shaft, we are unable to report any change; the sinking is being regularly carried on, and the shaft is now down 13 fms. below the 50 fathom level. The adit level cross-cut in the Glen is being driven west on the course of a vein running in that direction, and in which occasionally we see some copper; the level is now driven over 100 fms., and, according to the average run of Great Laxey lode, we may have to drive about 30 fms. further before intersecting it. At Glenroy, the 25 fm. level driving north has, so far, not improved according to our anticipations at the last meeting, yet we know that there are deposits of ore setting down in the bottom of the adit level, some distance to the north, which as we drive on will in all probability be met with. The engine-shaft has been completed to the 37 fm. level, and new drivings commenced north and south in a most promising lode, yielding lead, blende, and copper, but not in sufficient quantities to value. We still believe that depth is all that is required to make Glenroy a good mine. From the foregoing facts, we have every confidence in the value and permanent prosperity of the mines.—R. ROWE, J. BARRELL.

The CHAIRMAN said it was gratifying on his part to be able to state that he had very few remarks to make upon the present occasion—there was no great flourish of trumpets, there were no wonderful new discoveries, but there was no falling off, which was, after all, the most important feature, the more especially as he was able to inform the shareholders that instead of a falling off there was a considerable increase in the amount of ore ground laid open for the future permanent prosperity of the company. (Hear, hear.) It had been perceived by the reports read that the various points of operations varied from 50*l.* to 150*l.* per fathom, which gave a substantiality to the produce, and a security for the payment of dividends. (Hear, hear.) It had also been perceived by the reports that considerable improvements might be anticipated at some points in connection with the slide in the 190, which was a very interesting point. The large slide, which was, in fact, a cross-vein, had been cut through, and the flow of water had been so great that it was quite as much as could be done to keep that part of the mine clear, because the water had risen during the alterations of the pumping-rods. That flow of water, however, would drain the lands situated north of the slide; and, moreover, such an influx clearly indicated an open, porous lode. It had always been found that wherever the lode was not productive the ground was close and hard, and comparatively dry; but where the lode produced ore of value the opposite was found to be the case—that, then, was a satisfactory feature. It would be seen that from the 145 to the 200 fm. levels there were 65 fms. of ore ground to drive through, each level between those points having been proved to contain the rich lode;

while above the 145 and below the 200 fathom levels there was a valuable lode, so that shareholders might safely estimate that a great number of years must elapse before such a mass of ore ground could possibly be taken away. (Hear, hear.) There was one point referred to in the directors' report to which he directed attention. He alluded to the large accumulation of blende. At the time the accounts were made up the stock in hand amounted to upwards of 2000 tons. For many years the company had a contract with one of the largest smelting firms in the kingdom for the sale of blende, but for a long time the directors had felt perfectly satisfied the company were receiving much too low a price. The firm having declined to give a better price, the directors at the date of the last general meeting in London, unanimously determined to give three months' notice to abandon the contract. For some time subsequently he confessed he had had some doubts as to whether they had taken the right course, inasmuch as the blende continued to accumulate; but since that time they had delivered very large quantities at a very much better price than was obtained under the contract, and the demands were equal to at least the quantity they could possibly raise. Only yesterday a representative of one of the largest firms had an interview with the board, but the only understanding that now existed was that the price should be fixed at a certain scale, according to the quotation for spelter, as announced in the *Mining Journal* week by week; and the directors were quite ready to enter into arrangements for a monthly supply, according to that scale, but still it must only be a monthly arrangement, and nothing beyond. From the time the contract ceased, up to the period the accounts were made up, they calculated a saving of 1400*l.* had been effected by the cessation of the contract. (Hear, hear.) Upon comparing the half-yearly accounts now submitted with those of the corresponding half of the previous year, it will be found that, although the returns during the six months of 1867-8 were very good, yet that they were exceeded during the six months of 1868-9 by something like 100 tons of lead, in addition to a larger quantity of blende; the increase of lead having amounted in value to 2800*l.*, and in blende to 1648*l.* There was, however, a decrease in copper, because the price had been so extremely low that they had not felt themselves justified in raising more than they were compelled to do, leaving the stopes untouched until the market had improved. As to the reference made in the directors' report with regard to an article which appeared in a little circular published for a certain object—a circular, he might add, so utterly insignificant that he did not feel himself justified in mentioning even its title, as by so doing he would give it a prominence which would gratify the vanity of its proprietor—all he need say was that in this publication had been gratuitously forwarded to each shareholder, and that in it a statement appeared, to the effect that the writer of the article took credit to himself for having formed the Great Laxey Company, and then proceeded to speak as if he had taken the mine as a nursing-child, which was most amusing, seeing that this nursing-child was born long before the writer himself. (Laughter.) But the whole gist of the question was in the statement—that shareholders should enquire what length the lease had to run, whether there was a probability of it being renewed, and upon what terms? The writer had no interest whatever in the mine, and nothing to do with the concern, and what right he had to throw dirty water upon its shareholders might divine. It had given him (the Chairman) a little trouble to answer the various shareholders who had written to him upon the subject, but he did not think it wise to gratify the writer by entering into a newspaper discussion upon the subject. As stated in the report, the company was standing in a perfectly safe position; there were five years unexpired of the present lease, and having worked under that lease most faithfully, most energetically, and without considering the outlay in any instance in opening the mine to the fullest extent, there could not be the slightest doubt that when the time came the lease would be renewed by the Crown upon favourable terms. No one could conceive the possibility of the Crown turning round after a period of 37 years, during the latter portion of which they had received in royalty about 4000*l.* a year, and refusing the renewal of the lease, except upon some extravagant terms. He looked upon the renewal as purely a mere matter of business. As long as they could go on satisfactorily, proving that they had a good and substantial property, that they were able to realise the handsome profit of 30,000*l.* per annum, that it was not merely a concern in which they were taking out the stuff to pay dividends and leave nothing behind, as long, he repeated, as they were able to do that no charge could ever be brought against them of improperly working the mine or of cooking the accounts—and he openly counted the fullest investigation. So long as they went on in their present course the Great Laxey might be looked upon as safe as almost any investment in the world. (Hear, hear.) He then moved that the report and accounts be received and adopted.—Mr. WALLER seconded the proposition, and it was carried unanimously.

The CHAIRMAN added that "steel ore" in Great Laxey invariably indicated the commencement of a deposit of iron, and there was no reason to doubt that it would prove to be the same in Snæfell. Each shareholder, he thought, would allow that this information was very satisfactory and encouraging. It was a question whether they were not approaching northwards a great caunter vein, known to the Isle of Man miner as a "slide"—they had the same thing in Great Laxey, and they never had ore without it. As far as he was concerned, he felt perfectly satisfied that Snæfell would turn out a good mine—at any rate, he had given the best possible proof as to his opinion; for, although the largest shareholder, he had taken up his full proportion of the subsequent allotments, and he found that he had no less than 2776 shares—that, he repeated, was the best pledge he could give as to his opinion that Snæfell would turn out a success. He moved that the reports and accounts be received and adopted.

Mr. GEORGE seconded the proposition.

Capt. ROWE said that he had much pleasure in responding to the Chairman's invitation. Although he felt, even as a miner, he could scarcely improve on the very lucid and practical statements made by the Chairman, he could, however, confirm fully the directors' and the manager's reports, from a personal knowledge of the state and prospects of the mine, which so recently as this day week he carefully examined, and afterwards filled up the plan of the mine now produced, from which shareholders will observe that there is already a defined ran of ore ground discovered in the mine, dipping at present east northwards towards the large east and west lode, at the junction of which he felt it was all but a certainty that great and valuable bodies of ore would be found, the tendency to this quite accords with Great Laxey; and from Snæfell being on higher ground, the depth at which this result is likely to occur agrees with the great ore-bearing point of Great Laxey when that mine became a success. In conclusion, he was never more satisfied that the ore so far seen in Snæfell were only emanations thrown up from the heavier and larger deposits below, and with that feeling would stick by the mine, and by the directors in their present intentions to see it amply developed.

The report and accounts were received and adopted unanimously. Votes of thanks to the Chairman, directors, and manager were passed, when the proceedings terminated.

PENHALLE WHEAL VOR MINING COMPANY.

The general meeting of shareholders was held at the offices of the company, Winchester-street, yesterday.—Mr. HOLROYD in the chair.

Mr. W. BATTYE (the secretary) read the notice convening the meeting, and the minutes of the last were confirmed.

A statement of accounts was submitted, which showed a balance of liabilities over assets of 734*l.* 18*s.* 5*d.*, including the March cost.

The report of the manager was read, as follows:—

April 14.—The engine-shaft is sunk to the 110, where the shaftmen are at present employed cutting a plat. The south lode changed its underlie so rapidly from the 90 that we met with it in the shaft 10 fms. under that level, and the sinking was continued on its course for 3 fms., when a slide came in from the north, underlying south and dipping west, which heaved the lode; the above work will be completed in a fortnight more, when I purpose cross-cutting to the lodes, where it is my opinion we shall have a good improvement for tin. Judging from the rapid turn which the south lode made under the hard floor towards the north or main lode, and its intersection with the slide, as well as the favourable change of ground which we are in, I consider our chances of success to be good, and believe that when we cut the lodes our expectations will be realised. I would also here remark that in this district, wherever slides have come in contact with lodes they have always proved productive. When we cut the lodes in the 110 we shall be able to ascertain at what depth we shall reach the junction, which is a very important point. In the 74 we have four men engaged cutting ground for balance-bob, which will greatly assist our pitwork in the deeper development of the mine. In sinking the last sump in Ritchie's shaft several branches from the lode dropped off south, and as soon as the shaftmen complete their plat in the 75, which they will do by the latter end of next week, we intend to drive south to ascertain whether a part of the lode is standing in that direction, and also resume the sinking as early as possible; the lode at the shaft produces large quantities of muriatic and good stones of tin, but not sufficient to value; and I recommend sinking 10 fms. deeper, and then driving on the course of the lode back to intersect the great boundary cross-course, which has yielded immense profits in the adjoining mine; and I have every reason to believe, from the kindly indications of the lode, that in proving the piece of ground as mentioned we shall meet with a discovery. During the quarter we have sunk in shafts 16 fms., 1 ft. 6 in., driven 5 fms., 2 ft. 2 in., pulled up lift from Battye's and sent it down in Ritchie's shaft, eased and divided the latter, cut ground, and put in rolls in the 30 and 60 fm. levels, and other work. We have now employed underground 30 men; surface 8 men, 2 boys, one girl, and occasionally 3 sawyers: total, 44. We sold black tin and tinstuff during the last quarter amounting to 283*l.* 6*s.* 6*d.*—W. H. MARTIN.

The CHAIRMAN said that the report which he had the pleasure of presenting to the shareholders upon the present occasion would, doubtless, be received with satisfaction. From the result of the works now in progress, it was apparent that they were about to realise their anticipations. By the agent's report it would be seen that the south part of the lode had been met with in the shaft, and that, while sinking a sum a slide had been cut, which had heaved the lode north. It was proposed to drive a cross-cut in the 110 fm. level, for the purpose of cutting the north and south lodes, where the agent expected to meet with tin, and it is to be hoped that it will be of such a character as to assist in the further development of the property, and thus relieve the shareholders from the heavy toll which they had been compelled to pay during the last two years. Another important feature in the mine was that the lode which had been reached in Ritchie's shaft had been found "tiny," and of such a character as to justify the further sinking on its course. In perusing the financial statement, and that of the assets and liabilities, it would be found that during the past twelve months the committee had been able to carry on the operations at the mine with advantage, and at the same time to reduce the liabilities to the extent of 100*l.* The call proposed to be made upon the present occasion would, with the arrears, more than cover the entire liabilities of the company. Another subject for congratulation was the improved condition and prospects of the tin market. Taking all circumstances into consideration, he thought shareholders would agree with him in thinking that the general prospects of the enterprise had undergone a most favourable change, and it was to be hoped the shareholders would readily respond to the call about to be made.

Mr. BATTYE, in reply to a question, stated that through the courtesy of Mr. Noakes, the Chairman of Great Wheal Vor, he had been supplied with a transverse section of Metal shaft, by which it was clearly proved that, as the development of Penhalle progressed, it in every way assimilated to Great Vor. As, for instance, the underlie of the lodes were identical, and a slide had been met with in a change of ground similar to that seen in Great Vor. The lode in Penhalle had not been seen for the last 13 fathoms, and it was expected that when it was cut it would be found productive for tin, as had been the case with their neighbour under similar circumstances.

The report and accounts were received and adopted unanimously.

A call of 10*s.* per share was made.

A vote of thanks to the Chairman concluded the proceedings.

FOREIGN MINING AND METALLURGY.

The Belgian coal trade continues quiet. At Liège coke alone remains in demand, and is sought after at easily sustained rates. At Mons coal maintains former quotations with difficulty, but coke is in good demand; supplies are taken off at 17*s.* 3*d.* per ton for washed coke, and 14*s.* 9*d.* per ton for unwashed coke. The Charleroi Chamber of Commerce has pronounced unanimously against a customs union with France. The house of Acoz has just concluded a contract for 5200 tons of hammered rails with the Belgian General Railways Working Company; the price of these rails is 75*s.* 6*d.* per ton. This is, we believe, the only order of importance which has been obtained of late in Belgium, but at present the state of affairs remains very good. Notwithstanding the augmentation in the manufacture, stocks do not appear to be accumulating. The prospects of the Belgian iron trade may, indeed, be pronounced favourable, but some apprehensions appear to be entertained as to the effects of probable English competition. The Jemmapes blast-furnaces have been re-lighted by Messrs. Demerbe and Co. At Charleroi casting pig, No. 5, has made 32*s.* 2*d.* per ton; and refining pig (hard iron), 2*s.* 18*s.* to 3*s.* per ton. Rolled iron, No. 1, has made 6*s.* 8*s.* per ton. For ordinary plates the quotation has been 8*s.* 12*s.* per ton; and for boiler-plates, 9*s.* 8*s.* per ton. The Luxembourg Railway Company has been appealed to reduce its tariff for the conveyance of minerals from Athus to Charleroi. The present tariff is very high, and the industrial group of Charleroi would gain considerably if it had not to pay more

markets have remained stationary. At Paris the quotation for Banca tin is 148L per ton, while Straits has made 146L, and English 144L per ton. The price of tin has scarcely varied at Hamburg. Speculation has carried the price of Banca tin at Rotterdam to 86 fls. on the conditions of the public sales, and 85 fls. ordinary conditions. The reaction which might be expected to take place after this exaggerated upward movement has since set in. The last advices from Batavia inform us that the Government has invited tenders for the conveyance of 60,000 Ingots of tin from the island of Banca to Java. This quantity is irrespective of the ordinary transports made by small vessels, bringing rice from Java to Banca for the wants of that island. We may then, expect heavy arrivals of Banca towards the end of the present year, and a portion of these heavy arrivals may possibly be sold at the public sale in September. All this has had an influence on the Dutch markets, upon which Banca had at the last dates changed hands at 82½ fls., while Billiton was obtainable at 82 fls. Heavy deliveries of this latter description are also anticipated. At Amsterdam, Banca has closed rather more feebly, at 82½ fls. The official stock of Banca in Holland is returned at 130,879 Ingots, including 21,000 Ingots which the Society of Commerce has reserved for its autumn sale. The French lead markets show little change. At Havre a Spanish lead, first fusion, has made 19L 4s.; and lead from other sources, 19L 4s. to 19L 6s. per ton. At Paris, Spanish lead has brought 19L 6s., and other marks 19L 6s. to 19L 8s. per ton. The article has been firm at Hamburg, and in good demand. On the Dutch markets there has been scarcely any variation in lead, except that English and Spanish have been in rather less demand. The tendency of zinc has been rather feeble at Paris and Havre; Silesian has made 21L 12s. to 21L 14s. per ton.

The Rive-de-Gier Collieries Company shareholders have approved the accounts for 1868, and have fixed the dividend at 3s. 8d. per share. The Orleans Railway Company's report states that the capital engaged by the company in its Aubin Works is 654,422L. The production effected at these works in 1868 amounted to 186,123 tons of coal, 26,517 tons of rails, and about 323½ tons of argenticiferous lead minerals. Almost all the coal extracted was employed to meet the requirements of the forges, or those of the company's lines, so that only 20,667 tons were available for sale to the public. The sale of argenticiferous lead treated produced 6598L, and a considerable quantity of minerals not treated was left in store at the close of the year. The directors have commenced some exploratory works in an addition made to their concessions by a decree of Aug. 5, 1865. The Aubin forges are preparing to manufacture rails of a steely description of iron, the use of which is increasing on the system. The net profits of the Eschweiler Mines and Foundries Company for 1868 are returned at 35,244 thalers. This profit was obtained after payment by the company of 56,309 thalers for preparatory works, and 24,117 thalers for new constructions. Of the net profits of 1868, 15 per cent. was applied to the reserve fund, and 3 per cent. to the shares (second series). These attributions absorbed 30,786 thalers, leaving 4457 thalers to be carried forward to the credit of 1869. The payment of the dividend on the shares (second series) is being made in obligations of 100 thalers each, bearing interest at the rate of 6 per cent. per annum from April 2, 1869, and redeemable April 2, 1879.

THE GOLD MINES OF VICTORIA, AUSTRALIA—NO. III.

The difficulty of keeping companies of a progressive character fully supplied with the necessary capital, notwithstanding the rapid accumulation of capital and the wonderful successes in mining which have been recorded, is far greater than most people would conceive to be likely. The fact is, however, that the subscribed capital for progressive mines exceeds by many times the whole amount of money in the colony available for such purposes; and this has been the actual state of things at any period during the past decade of years. The consequence is that, with the exception of a few favoured mines, which promise a more than ordinary rapid development, the majority of undertakings have a languishing, fitful sort of life, until the process of time lifts them into the Dividend List. Even then the holders of shares are unable to resist the temptation of early dividends, in spite of their being obtained at the expense of the vigorous and prompt development of the mines themselves. Shareholders are compelled to sacrifice the future to their present needs. The history of gold mining in Victoria is made up of such experiences. It is the exception quite where capital is forthcoming in proportion to the requirements of the mine. There is hardly a successful mine worth mentioning shares in which have not been forfeited during the early stages, because of the impossibility of the holders to meet their engagements on the one hand, and the difficulty of finding a market for the shares on the other. The faith of people in their mines is generally a long way ahead of the capital at their command. As a recent instance may be mentioned the case of the Sadowa Company, at Talbot. The country is similar in its character to that of Ballarat, the miners there working the old river beds below a basaltic table land. The company referred to was formed to purchase the claim and plant of another company, but the total amount of money it was enabled to raise was only 1200L. Out of this very limited capital the purchase money (1000L) had to be paid. The company was, therefore, in this position—it had possession of the mine, but was without any capital whatever to work it. The only alternative left the shareholders was to let the mine on tribute, and this was forthwith decided upon. The tributaries began operations on May 1, 1867, and washed out their first gold on September 23 following. From that date up to the close of the year 1868, or a little over fifteen months, they had won gold of the value of 32,677L 6s. 10d. The Sadowa Company received in tribute 5845L 0s. 1d., a very excellent return for their first outlay of 1200L The tributaries themselves (50 in number) have not fared badly, having divided for the last three months of the year 1868 93L 10s. each. The mine gives constant employment to an average of 110 men. The company's claim has an area of 143 acres, and the width of the lead (alluvial) being worked is about 700 feet. Instances of the kind just narrated could be quoted almost *ad infinitum*. The Winter's Freehold and the Great North-West Mines—moieties of which are now offering in the English market—are not likely to stand still for want of local capital, even supposing such a contingency as their total neglect by English capitalists possible. It is one thing, however, to provide capital to keep moving, but quite another to raise the capital which should be ample in every respect to carry on mining operations vigorously, and on a scale commensurate with the magnitude of those two undertakings. Alluvial mining is just one of those pursuits of which it may be said—"If t'were well t'were done, then t'were well that t'were done quickly." The areas of these alluvial mines being defined, and gold, unlike almost all other metals, liable to no fluctuation in price, it is manifestly to the interest of everyone concerned that the gold should be won in the shortest possible time. In any case, working out these extensive properties will afford employment to large numbers of miners for a great many years to come, to say nothing of the possibility, or rather probability, of quartzites being discovered, in which case they will become permanent undertakings, and may be expected to give profitable occupation for generations.

The mines which abut on the Winter's Freehold have all been great successes, with one exception, and that one has proved the richness of its ground, and is now sinking the shaft deeper, in order to work the gutter to better advantage. With the single exception just referred to, they have everyone paid dividends in excess of their paid-up capital, and with the bulk of them that capital has been returned many times over. Yet notwithstanding, there is not one amongst the number that did not have to spell its success letter by letter, nor one of the early days of which were not fruitful of difficulties, from insufficient capital—insufficient in spite of the great promise as regards the prospects of those undertakings from their very earliest beginning. The result has been that mining has been carried on less efficiently, and the mines have occupied a longer time in developing, than has been consistent with high-class mining. Local capitalists are not in a position to invest their money in undertakings where they would have to wait any time for a return, but they bid liberally for shares in mines as soon as they approach fruition.

There is the Park Company, immediately to the north of the Winter's Freehold, working a run of wash dirt, which is heading direct to the Winter's Freehold property. The Park Company possesses the right to mine only over the comparatively limited area of 123 acres. Its paid-up capital is about 24,000L, and its shares at the present time are selling in the Melbourne market at the rate of 96,000L for the whole mine. Taking this basis of calculation, the area of the Winter's Freehold property should be worth 1,056,000L for the right to mine alone, to say nothing of its value as a freehold. This run of gold has been traced continuously from the Sir William Don claim, through the Cricket Reserve, the Newington Freehold, Western Freehold, Southern Freehold, into the Park Company's property, giving splendid returns throughout its entire course, and widening as it goes. There can be no question whatever as to the continuation of this same run of wash-dirt into the Winter's property. The intervening distance is only some 500 or 600 yards, and the position of the deep ground in the northern part of the freehold has been fully proved by the borers which have been put down. A glance at the certified map of Ballarat will be sufficient to convince the experienced miner, and, indeed, anyone having even but a small acquaintance with mining, of the desirability of the undertaking now offered to the English public. With

an abundance of cheap capital in England, and such surpassing opportunities for investment in some of the most productive mines in Victoria, there ought to be, and will be, no difficulty whatever in leading the one to the other, to the mutual advantage, most assuredly, of the miners of the colony, as well as the investing capitalists of the Mother Country.

LEAD MINING IN WALES.

THE GREAT ROCK.

The success attending the development of judiciously-selected lead mines in Wales, accelerated in no small degree by the facilities now available for conducting all such operations at a minimum expenditure, appears to be very justly proving a growing incentive for the employment of capital in opening up the mineral resources of the Principality. The question now being discussed in the columns of the *Mining Journal*, as to the chances of achieving success by exploring virgin ground as against extending the development of properties which have been productive in former times, need not be referred to in this place, although it may not, perhaps, be out of place to draw attention to it, inasmuch as it cannot fail to be of especial interest to all in any way connected with the subject.

An encouraging feature in favour of the extension of lead mining enterprise is to be found in the fact that from the improved condition of the market for that metal it may be fairly assumed the advance recently recorded will steadily progress, and for this reason—that whereas for the last three years the exports have gradually increased, the imports have relatively decreased. For instance, during the first two months of 1867 there were imported 4005 tons of pig-lead, as against 3639 tons in 1868, and 3626 tons in 1869; while, on the other hand, the exports during the same period were 7785 tons in 1869, as against 6003 tons in 1868, and 3073 tons in 1867. Of the 7785 tons exported during the first two months of this year, no less than 1900 tons were sent to China.

The most recent enterprise introduced is that to which attention was directed in last week's *Journal*—the GREAT ROCK LEAD MINING COMPANY. The property acquired has been for some time in course of development, and such results have been attained as to leave no doubt in the opinion of the most accredited practical authorities upon lead mining who have inspected the mine that a comparatively small expenditure of capital will lead to a remunerative condition. Capt. John Kitto (of Brynpostig and Mid-Wales Mines) states that the one thing required to ensure success is that the operations are conducted with spirit and economy. Capt. Edward Rogers (formerly agent of the celebrated and profitable Tamar Silver-Lead Mines), referring to the natural facilities with which the mine is provided, directs attention to the circumstance that there is a supply of water near at hand at all seasons of the year which can be made available for all purposes, such as pumping, drawing, crushing, &c. This is of great importance, as no steam-power will be required. The situation of the ground is likewise well adapted for large dressing-floors. He adds that he has been for several years engaged in lead mining in Devon, Cornwall, Wales, and Ireland, and for nine years an agent at the once celebrated Tamar Silver-Lead Mines, and he never saw such facilities throughout as there are at the Clegir Mawr Mine, together with the favourable character of the lodes for the production of lead ores.

Capt. Abram Ralph (mineral agent in Wales of Sir William Williams) suggests some alterations with respect to the position of the machinery, and estimates that with the expenditure of less than 1000L, the mine will be in a position to at least pay all the requisite costs. Captain R. Rowe (of the Great Laxey Mines) describes the rock or stratum of the mine as being of a soft clay-slate of a most congenial kind for ore, easily worked, and, together with the lodes, present to his mind a most striking resemblance to the great ore-producing mines of Cardiganshire, to which, in his opinion, this will not be second on being similarly opened up and worked. This statement is confirmed by Capt. F. Evans, who states that the mine can be very cheaply worked; that the formation admits of an easy and speedy progress in the driving and sinking; and that there is also a large supply of water for winding, pumping, and crushing the ores, rendering steam machinery quite unnecessary, whilst the rail running within a short distance supplies every convenience that the mine can require. Taking all these things into account, together with the prospects for lead ore already discovered, and the indications for the future, Capt. Evans is of opinion that the Great Rock is a speculation of no ordinary character, and can be recommended to parties desirous to invest in mining speculations, believing the result will be profitable and successful. Captain Evans (upon whose report or recommendation, it is stated, the Van Mine was purchased) adds that by reference to the Ordnance Map it will be seen that, although the Great Rock Mine is a considerable distance from the Van, it is in reality one and the same district.

To this testimony Capt. John Kemp (the manager of the mine), after describing the character of the different lodes, adds that there are important trials to be made, such as driving the shallow adit east on the lode, where there will be immense backs with short drivings, and in which drivings, no doubt, good discoveries will be made, for there are to be seen large detached pieces thrown down from the back of the lode, weighing tons in a piece, full of lead; therefore, Capt. Kemp does not hesitate to say, after the completion of the machinery and the work named, that with the employment of from 40 to 50 men, from 40 to 50 tons of lead per month will be raised, which will leave nearly one-half profit. Capt. Kemp has been connected with the Cardiganshire mines for upwards of 20 years, which are amongst the best paying mines in Wales, and he finds that the lodes in this mine are in the same stratum, a congenial killas, and identical with those of Cardiganshire. Therefore, it is his firm opinion that the Great Rock will be found to be a valuable and lasting property.

MINING NOTABILIA.

[EXTRACTS FROM OUR CORRESPONDENCE.]

WEST CHIVERTON.—The shaft is being sunk below the 120, in a fine channel of ground. The 120, on both lodes, which formerly used to be reported upon as one, is worth 70L per fathom. Without calculating stops and pitches, which are very productive, the other parts of the mine—ends, rises, and winzes—are worth 360L per fm. It will be seen from this the mine is looking well, and likely to pay the present profit of 24,000L a-year for a long time to come. The shares have fallen nearly 10L each within the last few months, chiefly, as it is understood, through large sales made to re-invest in a Welsh lead mine, which has lately risen to 300,000L, and which will commence with a dividend of 5s. per share in June. It has been reported that the large holder in West Chiverton has sold, which is not the fact—on the contrary, that gentleman and his friends have been buying. At the present price, the mine pays 16 per cent., or more than any other dividend mine, while the reserves are estimated at a very high figure. The next dividend, of 2L per share, will be in May.

At EAST WHEAL GRENVILLE the prospects have somewhat improved during the past week, the 65 and 55 fathom levels presenting very strong indications of an early improvement. The latter level has been driven more than 30 fathoms through the course of one, and there is a good lode down in the bottom of the lode, whilst in the back (of which a very small portion has been worked away) there is a lode which will be taken away at about 15L in 17. tribute. The sampling next week will be about 250 tons of copper ore, and from present appearances the following sale will largely exceed the present one.

At WHEAL GRENVILLE, in the 90 fathom level cross-cut, the ground has undergone a most favourable change in the last day or two, and the agent thinks the lode is not far distant. The tin sold for March realised 91L.

PEDN-AN-DREA.—These extensive mines continue to open out to the satisfaction of the shareholders. An improvement has lately taken place on the bottom level—140 west—now worth 40L per fm. This added to the richness of the north lode, at the 47, 55, and 90 fathom levels, must make these mines highly profitable.

WEST VAN (Llanidloes).—The proprietors of this valuable property, which has been so favourably reported upon by the best mining authorities in Wales, are making arrangements for carrying out extensive operations without delay, and are sanguine of opening up a very important mine.

MOLD LEAD MINES (Flintshire).—A most excellent discovery of ore has been made at these mines, having intersected a side lode north of the main lode worth from 30L to 40L per fathom. The ground is exceedingly promising, and holds out great encouragement to its proprietors, as the machinery now erected on the main lode will unwater this discovery 30 to 40 fms. below the present bottom.

SOUTH TREVENNA.—This mine during the last week has shown signs of considerable improvement. The hard nature of the lode, so difficult to treat, has changed to a beautiful peachy lode stuff; much easier for the stamps, which are knocking this out freely. The work is better, and they are able to clean it off without burning, being a saving of time and money. There is every appearance of its holding on, which will enable the returns to be increased. Another sale of tin is to be made in about a week. Men are put on to drive the bottom ends, so as to obtain 20 fathoms of backs for stopping between that and the present bottom.

SOUTH TREVENNA.—This mine during the last week has shown signs of considerable improvement. The hard nature of the lode, so difficult to treat, has changed to a beautiful peachy lode stuff; much easier for the stamps,

cut many months back in driving, and yielded yellow, peacock, and malachite copper ore, of the value of 40L per fathom, and if the lode turns out equally as good the shares must rapidly run up in price.

SOUTH MERLLYN.—A discovery of value is likely to be made at the 40 fm. level north, the lode presenting the usual indications for making rich deposits of lead as the level named becomes extended. It must also be remembered that the lead discovered at the 30 can be worked when the 40 has been extended about 20 fms. from the shaft. This is important, and from the one point mentioned profits are likely to accrue to the shareholders. In the 40 south the lode is also becoming more valuable, being now worth fully 5L per fathom, and the ground easier for progress; the lodes increasing in size, being now 3½ ft. wide. The sett extends for nearly 300 fms. on the course of this one lode, in virgin ground. Altogether the prospects are very encouraging, and the mine is likely to prove very profitable.

TRELYON CONSOLS.—This is a tin mine of great promise, though as yet almost unknown to the general public. It adjoins the rich Providence Mines. It is only in 548 shares, now making profits, and must, it is considered, shortly prove a very desirable investment. Hitherto its intrinsic worth has been known only to the shareholders, who are principally local, none of whom have taken any steps to obtain publicity for their property. The nominal market value, according to late quotations, is 5L per share, or 2740L for the mine and machinery; whereas the adjoining mine, known to public favour, is 47,000L, in value.

MID-WALES.—The shareholders will be pleased to learn that the sale of ore just made realised 1L per ton more than the last sale. The ore from the neighbouring Van Mine realises 13L 18s. per ton, whereas that from Mid-Wales now realises 12L per ton, and it is confidently anticipated that, as in Van, the ore will continue to improve in depth, the characteristics of the lode in each mine being identical.

FOREIGN MINES.

YORKE PENINSULA MINING COMPANY.—The shareholders of this company have taken up a sufficient amount of the debentures offered to them to justify the directors in ordering the resumption of operations at the Kurilla Mine, and a telegram has been sent to the committee making absolute certain contingent instructions to that effect, which left London on the 26th ult. The board received advice by the last mail of the shipment by the Duke of Sutherland of 993 bags of ore of good percentage, raised from the Kurilla Mine. They have also advice of a sample bag of ore per ton Glen Oamond, taken from a deposit of ore in the top of the 35 east, which had been discovered dipping east shortly before the workings were suspended. Respecting this ore, the committee write that it is "by far the best the mine ever produced." They say, also, that it is the opinion invariably expressed "by every competent person who has seen the mine that at a greater depth far better results may be looked for if a sufficient number of miners be set to work upon it." The directors have very lately received a proposal to lease or purchase 300 acres of the surface of the Bon Accord property, but have not thought it advantageous for the company to entertain.

CHONTALES.—Consuelo and Estrella Mines report for February:—No. 4 stope, in back of No. 2 level, east of No. 2 shaft, has been stopped 27 varas; No. 4 stope, 1 ft. wide, worth 12 dwt., of gold per ton. No. 5 stope in back of No. 2 level, east of No. 2 shaft, has been stopped 14½ varas; lode 4 ft. wide, worth 15 dwt., of gold per ton. No. 6 stope in back of No. 2 level, east of No. 2 shaft, has been stopped 20½ varas; lode 4 ft. wide, worth 10 dwt., of gold per ton—at present worth 1 oz. No. 7 stope in back of No. 2 level, east of No. 2 shaft, has been stopped 15½ varas; lode 4 ft. wide, worth 10 dwt., of gold per ton—at present worth 1 oz. A stope in bottom of No. 2 level, east of No. 2 shaft, has been stopped 12 varas; lode 4 ft. wide, worth 14 dwt., of gold per ton. During the last week we have stopped our stope home to the new ground, which is showing the lode from back of No. 2 level to surface—4 ft. wide, worth from 18 dwt., to 1 oz. per ton. Should this lode continue in value, I am confident we shall do better in the future than in the past. I have known Consuelo nearly four years, and I have not seen the stope looking so well as at present. No. 4 deep adit level has been driven 7½ varas; lode small and poor for the last three months, but within the last week we have cut very good ground, which I hope will improve the lode, and enable us to go on a great deal towards the ore ground. Driven east from Piper's shaft on course of lode 13½ varas; lode 3 ft. wide, for the past month worth 3 dwt., now poor and disordered. Driven on No. 2 level, east of No. 2 shaft, on course of lode 8 varas, for the first part of the month worth 6 dwt., and 4 ft. wide, now 2 ft. wide, worth 3 dwt. No. 3 level, which has been suspended for some time, in consequence of being hard and our native miners not being able to work it, has been resumed this month, which I intend to push on by the assistance of Englishmen, as I still believe we shall cut the ore ground in this level by the appearance from the ground above. The quartz sent to mill this month is 751 tons from the mines, which I estimate at 12 dwt., per ton; this I estimate to be about 450 ozs. of melted gold. More quartz would have been sent to mill this month, but our No. 3 level broke down about 10 fms. in length. I passed through this point about mid-day on the 23d, and at midnight I was called by the night-men, when I found the above damage done, which took three days to repair the same. At present our tramways and levels are all clear, and in working order, and every precaution has been taken to keep down the cost. The mines are looking favourable for a continuous supply of quartz, and of better produce than in time past.—JOHN TONKIN.

Feb. 5.—San Antonio Mine: In the past month the deep adit level has been driven 9½ varas, on a lode from 2 ft. to 2½ ft. wide. The first 5 varas of this drivage would yield 2 dwt., of gold per ton, after which the lode improved to 4 and 6 dwt., per ton, but this improvement did not continue more than about 3 varas in length, when it again declined in value, and will now yield about 2 dwt., per ton. We have stopped in the back of the deep adit level, west of shaft, 27 varas; lode 3 ft. wide, worth on an average throughout the month about 2 dwt., per ton; this stope is suspended. The cross-cut driving towards San Antonio old mine has been driven 29½ varas, and we have about 40 varas more to drive before reaching the old mine. At Trinidad Creek, we have driven the deep adit east, on San Benito lode, 19 varas; lode in a disordered state, and poor. We have put to the stamps in the past month 267 tons of quartz—145 tons broken from the end and stope in the past month, worth about 2 dwt., per ton; and 122 tons from the stull broken the month before, worth 5 dwt., per ton.—JOHN ANDREWS.

the bottom of the 35, east of this shaft, is worth 2 tons of ore per fathom. The stope in the bottom of the 20, east and west of Powell's winze, on the Fire lode, will yield 2½ tons of ore per fathom. The stope over the 35, east of Bray's, will yield 3 tons of ore per fathom. The lode in the winze sinking below the 35, east of Bray's, will yield 3 tons of ore per fathom. The lode in the 50 has fallen off in value since last reported on; but no doubt it will soon improve again.—Wellington Mine: The stope in the bottom of the 36 will yield 2 tons per fathom; the stope in bottom of the 24 nearly 2½. The lode in the 24, east of Mitchell's shaft, will yield 2 tons. The stope east of Rowe's shaft still continues to look well, and will yield over 2½ tons per fathom. The stope west of this shaft will yield 2 tons of ore per fathom. The stope in back, west of this shaft, is now worth 1½ tons of ore per fathom. I am happy to inform you that everything is going on well.

LUSITANIAN.—April 6: In sinking Taylor's engine-shaft below the 120 the lode is worth 2 tons per fathom. We are down to the 130, and began to drive east and west of the shaft. In River shaft, sinking below the 100, the lode is 1½ ft. wide, composed of flockan. In sinking No. 76 winze below the 28, west of Perez's shaft, on Busto's lode, the lode is 9 in. wide, composed of flockan. In sinking No. 78 winze below the 8, west of Perez's shaft, on branch, the lode is worth 1 ton of ore per fathom.—Levels on Busto's Lode: In the 130, east of Taylor's, the lode is worth 1 ton per fathom. In the 130 west the lode is worth 1 ton per fathom. In the 120 east the lode is 2 ft. wide, composed of flockan and quartz. In the 120 west the lode is worth ½ ton per fathom. In the 110 east the lode is 2 ft. wide, composed of flockan and loose country. In the 110 west the lode is 2½ ft. wide, composed of quartz and stones of mudi. In the 90, east of River shaft, the lode is 1 ft. wide, composed of dry flockan. In the 70 the lode is 2 ft. wide, composed of quartz and flockan. In the 38, west of Perez's shaft, the lode is poor.—Levels on the Branch: In the 18, west of cross-cut, the lode is worth 1 ton per fathom of copper ore, and good stones of nickel. In the 18 east the lode is worth ½ ton per fathom of copper ore. In the 8, west of Perez's shaft, the lode is 6 in. wide, containing good but small stones of ore.—Levels on Ponte Lodge: In the 28, east of the slide, the lode is 8 in. wide, composed of quartz and country.—Cross-Cuts: In the 25 fm. level cross-cut, south of Busto's lode, and west of Perez's shaft, the ground is improved.—Carvalhal: In sinking the shaft below the 40 the ground is just as usual, but no lode to value. In sinking No. 9 winze below the 29, east of incline shaft, on great lode, the lode is 7 ft. wide, composed of quartz and lead, worth 1½ ton per fathom.—Levels on the Great Lode: In the 40, east of incline shaft, the lode is 3 ft. wide, and worth 1 ton per fathom. In the 39 the lode not being taken in consequence of so much water. In the 20 the lode is 8 ft. wide, and worth for lead 2 tons per fathom. In the 10 east the lode is 6 in. wide, and worth ½ ton of lead per fathom.—Levels on Caunter Lode: In the adit level, west of incline shaft, the lode is 1 ft. wide, worth 1 ton of lead per fm. In the 10 west the lode is split into branches, yielding stones of lead.

PONTGIBAUD.—W. H. Rickard, April 2: Roure Mine: The 140 metre level, south of Richards's shaft, continues in a lode composed of red, jointed quartz, mixed with soft, decomposed gneiss. The 80 metre level south yields a little low-quality saving work. A winze in the 80, north of shaft, yields ½ ton of ore per fathom. The 60 metre level, south of Agnes' shaft, yields ½ ton of ore per fathom. The 20 metre level cross-cut has intersected Virginal's lode, which is 1 foot wide, of a very kindly appearance, yielding about ½ ton of ore per fathom. The lode in the stolen south has produced some pretty good ore-stuff in the past month, but although maintaining a strong, kindly appearance, does not produce much ore at this moment. The stolen cross-cut west of Virginal's shaft has met with no change worthy of notice. Our stope in this mine, reduced to size in number, with the tribute pitches, yield about the usual quantity of ore each.—La Grange: The 100 metre cross-cut, at Nosky's shaft, has entered the lode 2 metres, which is exceedingly wet and troublesome, composed of dark quartz, spotted with grey mudi. The 80 metre level north yields ½ ton per fathom. The winze sinking in this level, near the shaft, yields stones of ore, but of no great value. The 20 north is soft and poor. We have one stope and eight tribute pitches, yielding about their usual quantity of coarse work. Mioche: The adit north, on No. 6 lode, is soft and poor. The adit cross-cut east has met with soft, joddy ground, of a disordered character.—Bouzurat: We have cut a small vein of clay, and have set to drive on its course northward, hoping it may prove to be the lode, and present a better appearance when the level gets into firmer rock.—La Brousse: The 100 metre level, south of Bassel's shaft, yields 2 tons of ore per fathom. The 80 metre level south is poor. A winze below this level yields ½ ton per fathom. The 60 south looks very promising; the lode is making good ore in the under wall, yielding 1½ ton of ore per fathom. The 40 south is unproductive. The ends of the 20 metre level, both north and south of whin-shaft, on the western lode, are in soft, unproductive ground. Our 11 tribute pitches yield well.—Pranal: The 70 cross-cut, towards St. Mathew's lode, has entered spicier ground. We are now making good progress. The 50 metre level, north of junction, yields stones of ore. The rise in the same level south is holed to the winze from the 8 metre level, giving us good air, and opening good tribute ground. The 50, south of cross-cut, is unproductive. The same level, north of cross-cut, yields 1 ton of ore per fathom. The 30 metre level north yields ½ ton per fathom. The same level south yields stones of ore. The 8 metre level north yields ½ ton of ore per fathom. The adit level, south of Bouzurat's shaft, is a little stiffer; the lode poor. Our 12 tribute pitches yield pretty well on the whole.—Surface: We have begun working at the new lauries. Our samplings have amounted to 250 tons.

PESTARENA UNITED.—T. Roberts, April 9: Pestarena Mine: The lode in the 40 end, south from Aquaviva engine-shaft, yields 7 tons of ore per fathom, worth 2 ozs. of gold per ton. Since our last report we have commenced to sink on the course of one behind this end; the lode yields 8 tons per fathom, worth also 2 ozs. of gold per ton. In the cross-cut east at this level we have reached a branch of auriferous pyrites, and expect to reach the flat lode in this cross-cut shortly. The lode in the end of the 33 south has improved, yielding now 4 tons of ore per fm., worth 18 dwt., of gold per ton. The bottom stope in Pescihera are the same as last week. The lode in the end, driving north at the 70, yields ½ ton of ore per fm., worth 15 dwt., of gold per ton. The lode in the end, driving north at the 40, on No. 2, yields 4 tons of ore per fm., worth 14 dwt., of gold per ton. In the end, driving south at the 16, we have discovered some branches of ore on the east side, as yet not much to value, but looking very favourable for a speedy improvement. I am pleased to state that the weather is fine, and the water in the Alza is gradually increasing. We have started more mills at Pestarena. The snow has been cleared from the Stead road, leading to the Cani Mine, and we anticipate bringing ore to the establishment next week. Nothing new at the mine.—Val Toppa: The snow has been cleared from the Stead road, and we commenced a carriage of ore on April 7. In the Marimazza we have water to run some of the small mills, and calculate next week to work the whole number—116. At the mine we have a considerable improvement in the stope in back on the flat lode at No. 2 level. The ore from this stope is now first-class, and some of it will be brought to the establishment and treated this month. At No. 3 level, in the end driving south on a small lode from the outer cross-cut, we have reached some ore; a trial will be made of it.

CAPULA.—Capt. Paul, March 7: We have sent to San Cayetano hacienda for reduction 172 cargas of metal; this week we shall send sufficient for two tortas, one of 10 moutones and another of 12. They have not yet put the first torta in the patio; the heads of the tanks are taken up, but the tail is still too wet. I expect it will be incorporated this week.—San Juan Hacienda: We have nearly all the iron work ready for the water-wheel. The smelt will soon commence about the work for the stamps; he can only work part of his time for the hacienda, as he has to make all new tools for the mine and steel the borers, &c. (It takes 12 quintals of borers iron for the shaft alone; the number of borers required altogether is very large). The greater part of the timber is in order to put together the wheel, which we shall accomplish as soon as the wheel-pit is finished. The patterns for the gudgeons of the wheel and stampax are finished and sent to the foundry; we shall get everything in order by the time the wheel-pit is finished. The masons are employed building the walls of the hacienda, such as they are; we cannot get good masons to go to Capula, and shall have to build the work with such as we can get. I think we shall get everything ready to commence reducing the metal by the end of the dry season (end of June), and as soon as I get the weight of the castings I shall be able to send the directors a pretty correct estimate of the cost.—The Mine: The ground in the shaft is without alteration; last week three English and nine natives sunk half a vara. San Jorge rise is a little more than 20 varas above the Esperanza level. The stope is without alteration since my last, of the 26th ult. We have resumed the sinking of the winze below San Jorge rise and stope, they broke ten bags of best ore in the last week, five of which are very rich indeed. In No. 1 winze, sinking below the Esperanza, the lode is improving, the metal part is much wider; we are in hope that it will soon be as wide as it was above the level. All the other winzes and levels are suspended for the present, according to orders. I was very sorry to stop San Enrique end or winze.

CORNISH PUMPING ENGINES.—The number of pumping-engines reported for February is 18. They have consumed 1468 tons of coal, and lifted 11.7 million tons of water 10 fm. high. The average duty of the whole is, therefore, 53,700,000 lbs., lifted 1 ft. high, by the consumption of 112 lbs. of coal. The following engines have exceeded the average duty:

Chiverton Moor—70 in.	Millions 55.3
Dolcoath—Harriet's 60 in.	54.0
Great North Downs—Sleggan's 70 in.	63.2
North Wheal Crofty—Treavon's 80 in.	62.7
South Wheal Frances—Marriott's 75 in.	65.1
West Chiverton—Hawke's 80 in.	63.9
West Wheal Seton—Harvey's 85 in.	57.3

ON THE RELATIVE DEMAND FOR LABOUR IN THE AGRICULTURAL AND MANUFACTURING DISTRICTS—ITS CAUSES AND EFFECTS: with Maps and Diagrams, illustrating Crops, Labour, Stock, Waste, Acreage of Permanent Pasture and Arable Land in England, and the Percentage of Male Labourers employed in Agriculture, Coal Mining, and the Manufacture of Iron respectively.—See *Frazer's Magazine* for APRIL, just published.

MINING IN WALES.—The work in course of preparation by Mr. SAMUEL JENKINS, F.G.S., on the "Mines and Minerals of Wales," is now nearly ready for the press. It will contain a chapter on Ancient Mining, the Formation of Lodes; an important chapter on the Formation of Slate, the Duration of the Welsh Coal Fields, the Mineral Wealth of Wales, compared with that of other countries, where Mr. Jenkins will show that Wales is the richest mineral country known. It will also contain notices of the early mines and history of mining, together with the geology of each county. This, besides a vast amount of valuable and necessary information for the practical miner and the adventurer. Mr. Jenkins is an old correspondent of the *Mining Journal*, and has been for years practically engaged in mining.

SCIENCE AND ART.—A striking instance of the immense value a small piece of steel may acquire by the great power of skilled mechanical labour is the balance-spring of a watch. From its extreme fineness and delicacy 4000 weight not more than one ounce, and exceed in value 1000. A most interesting little work, describing the rise and progress of watchmaking, has been published by Mr. J. W. Benson, 25, Old Bond Street, and the City Steam Factory, 58 and 60, Ludgate Hill. The book, which is profusely illustrated, gives a full description of the various kinds of watches and clocks, with their prices. Mr. Benson (who holds the appointment to the Prince of Wales) has also published a pam-

phlet on Artistic Gold Jewellery, illustrated with the most beautiful designs of Bracelets, Brooches, Earrings, Lockets, &c., suitable for Wedding, Birthday, and other presents. These pamphlets are sent post free for two stamps each, and they cannot be too strongly recommended to those contemplating a purchase, especially to residents in the country or abroad, who are thus enabled to elect any article they may require, and have it forwarded with perfect safety.

EXPORTS OF RAILWAY IRON.—The year has opened favourably as regards the shipments made of railway iron from the United Kingdom, the total exports for the first two months of this year having been 80,439 tons, as compared with 74,853 tons in the corresponding two months of 1868, and 46,326 tons in the corresponding two months of 1867. The increase in the foreign demand for our rails disclosed by these figures arises entirely on American account, the exports made to the United States to Feb. 28 this year having been 42,360 tons, against 32,942 tons in the corresponding period of 1868, and 20,321 tons in the corresponding period of 1867. The exports of railway iron have increased this year to Russia, Prussia, France, Chili, British America, and Australia; but they have decreased as regards Spain, Cuba, Brazil, and British India. The last-mentioned market only took 7678 tons of our railway iron in the first two months of this year, as compared with 15,732 tons in the first two months of 1868, and 11,494 tons in the first two months of 1867. The value of the railway iron exported to Feb. 28 this year was 615,043, as compared with 585,817, in the corresponding period of 1868, and 394,177, in the corresponding period of 1867.

ATMOSPHERIC GAS-STOVES.—The application of steatite to the manufacture of gas-burners has already been mentioned in the *Mining Journal*, and Mr. LEONI, of St. Paul-street, Islington, the inventor, has now devised an arrangement in which he employs them for cooking purposes. One peculiarity of the apparatus is that the processes of broiling and roasting are conducted by a reflection only of the heat, a method which has, no doubt, great advantages over the direct application of the heat of a gas flame. It is claimed that with a consumption of only 15 ft. of gas a dinner for 12 persons can be cooked in two hours, and that when the stoves are used for heating purposes they do not produce the unpleasant sensation hitherto considered inseparable from gas-stoves.

SETTING BOILERS.—An improved method of setting steam-engine boilers, the adoption of which will, it is considered, prove of great advantage in effecting economy in fuel, has been invented by Messrs. HYDES and BENNETT, of Sheffield. By this arrangement the problem is solved of effecting a thorough intermixture of the gases during their passage through the flues, while it is of simple construction, and is readily applicable to existing boilers. In the course of their transit from the internal flues to the chimney the heated gases are made to pass over the edges of the four groups of plates successively, and they are thus four times divided out into thin streams, which are made to pass close to the surface of the boiler. The effect of this is that not only are all the particles brought into close contact with the heat absorbing surfaces; but from the thorough intermixture of the gases every facility is afforded for effecting perfect combustion. The spaces left between the edges of the plates and the boiler surface are so proportioned that the combined areas of the spaces belonging to each group are equal to the area of the flues at other points, so that there is no contraction of the flue area at any one point. The distance pieces or ribs, also, between the plates, from the position they occupy, discharge any dust or soot deposited on them into the flues, where being clear of the boiler surface, it can do no harm, and from which it can be readily removed.

UTILISING SCRAP IRON OR STEEL.—For the economic utilisation of ends of heavy scraps of Bessemer steel, which is now extensively used in the place of wrought-iron for a variety of purposes, as, for instance, for permanent ways of railroads, in the finishing of which short pieces are cut from the ends, Mr. J. THOMPSON, of Handsworth, Stafford, has just introduced a new invention, and as the utilisation of such ends will generally express the character of his improvements, the description of these will suffice. These scrap ends usually average from 1 ft. to 15 in. long, more or less, and he purposes treating them in two ways. Firstly, by reducing them entirely by rolling in the mass; and, secondly, by dividing them by rolling, that is to say, he first beats the lump or scrap end of Bessemer steel, and passes it between rolls, so turned and arranged that they present V or other shaped projections to the heated metal passed between them, which has the effect of dividing the mass into as many divisional parts as may be suitable by subsequent working and reduction down to desired sizes by rolling. Thus from the means of dividing to that of shaping and elongating the processes conduce to the general improvement of the condition of the metal by solidifying and improving its granular construction. And this same process enables him to treat old worn out rails in the same way, either by operating on them in the lengths or dividing them up, according to the purpose for which such reduced homogeneous iron or steel may be required. And, secondly, his improvements (in dealing with old worn out rails, scrap ends, or lumps of homogeneous metal) consist in so arranging his rolls that the thinner portions, such as the intermediate part of the top and bottom of a rail, shall be supported while the larger portions are reduced. Thus by a series of rolls or grooves a rail end may be first reduced to a flat mass, and then compressed or rolled edgewise, so that the middle portion shall be brought and be subjected to the beneficial effects imparted by the processes until the whole mass is reduced down to a bar of a suitable or desired form in its transverse section. In no case is the metal white under operation allowed to overlap, an effect he entirely avoids, as the description of metal named will not weld like ordinary iron or steel.

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IMPROVED BLASTING POWDERS.—Two new blasting powders are at present attracting attention in America, the one being Hafenecker's explosive powder, and the other a compound of gunpowder and nitroglycerine, called dualine. It appears that dynamite does not give satisfaction except in very sound rock, and that when used where there are seams or fissures a large proportion of the power is lost. The dualine does not seem to have been yet tested, but the trial of the Hafenecker explosive powder has proved very satisfactory. Among the experiments made was one consisting of breaking up a rock of irregular shape, 40 feet long, 25 ft. high, and 20 ft. wide, which rested in a bed of sand, where the tide washed entirely round it. The hole, 15 in. diameter and 10 feet deep, drilled weeks before, had filled with water from the pouring of the sea over the entire rock. The water being entirely swabbed out, a 1½-in. cartridge, several feet long, was inserted containing the strong, or No. 1, powder. Into this, by means of a funnel and tube, was poured the liquid which renders the dry powder explosive. Top of this was placed a small charge of the weak powder, which, by the power of its concussion, breaks the cartridge containing the strong powder, and exposes it to the fire which ignites the strong powder. No tamping was used. A redwood plug was inserted, grooved on one side to admit the common safety-fuse used to explode powder No. 2. The charge was placed in about the centre of the rock, the body of which is composed of hard cretaceous sandstone, bound partly by quartz. Seams were rent through the entire mass. But a small portion was broken fine or thrown to any great distance, although the rock was well fractured in the centre, the largest pieces—some of them nearly 20 tons weight—were thrown from the edge. The rock is supposed to have contained about 1600 tons. Parties who have visited the largest rock since the blast, at very low tide, say a considerable portion is imbedded in sand, but that it was completely broken through. It is questionable whether 100 lbs. of blasting powder could have been made to do equal execution to that wrought by the single charge of strong powder. To have done the work with common powder, would have required at least ten times the amount of drilling, and it is the time and cost of drilling, rather than the consumption of powder, that renders blasting operations expensive.

WORKING STEAM-ENGINES.—The chief object of the invention of Mr. E. L. PARAIRES, of Mornington-crescent, Regent's-park, is to increase the effective power of steam-engines of all kinds. To this end he introduces compressed air or other gaseous element within the working cylinders of steam-engines, and avails himself of the heat of the steam when partially exhausted to develop the expansive properties of the air or gas, and increase the propulsive force in the rear of the pistons of such engines. In carrying out his invention he connects with the engine an air-pump, worked by proper mechanical adjuncts by the engine or otherwise, and provides in the pipe forming the connection regulating taps or valves for giving an intermittent regulated supply of the compressed air or gas at the proper moment to the cylinders. The compressed air he prefers to store in a receiver, that it may be ready for instant use, and the regulating taps or valves he works by suitable gear worked by the steam-engine, care being taken that it is arranged so as to allow of the taps or valves being suddenly opened at any given point in the course of the piston, so as to allow, when desired, a volume of compressed air to be suddenly thrown in the cylinder behind the piston when in motion. The air or gas being thus brought in contact with the heated steam, suddenly expands, and acting as a propelling power assists in forcing the piston forwards. He does not confine himself to any particular mechanical arrangement for carrying out the principle of his invention, as the design will necessarily vary according to the nature of the engines to which it may be applied, but in all cases the character of apparatus above indicated will be used.

Creditors of the Penryr Granite Quarries Company (Limited) are required to send the particulars of their claims to Mr. J. J. Harris, of the firm of Addis and Harris, the Liquidator, by May 11.

Creditors of the Iptonstone Park Colliery Company (Limited) are required to send the particulars of their claims to the Official Liquidator at Manchester, by May 3, the 21st having been appointed by Vice-Chancellor James adjudicating upon them.

Creditors of the Great Northern Copper Mining Company of South Australia (Limited) are required to send the particulars of their claims to Mr. James L. Price, of 18, Gresham-street, by May 20.

Creditors of the Valgodemard Mining Company (Limited) are required to send the particulars of their claims to Messrs. Alfred Good and J. W. Lukis, the liquidators, by June 1, the 15th having been appointed by the Master of the Rolls for adjudicating upon them.

We find it is again proposed to reduce the number of Copper Ore Tickets in the county, and thereby lessen the expense to the miners, in consequence of the great falling off in

The Great Rock Lead Mining Company (LIMITED).

CAPITAL £15,000, IN 3000 SHARES OF £5 EACH.

Deposit of £1 per share on application, and £3 per share on allotment.

DIRECTORS.

WILLIAM PARRY, Esq., Holywell.

GEORGE HUGHES, Esq., Old Hall, Holywell.

RICHARD HARRISON, Esq., Castle Hill, Holywell.

BANKERS—THE ALLIANCE BANK (LIMITED), LONDON.

SOLICITOR—TUFNELL SOUTHGATE, Esq., 7, King's Bench Walk, Temple, London, E.C.

SECRETARY—Mr. W. J. LAVINGTON.

OFFICES, -63, BISHOPSGATE STREET WITHIN, LONDON.

PROSPECTUS.

This company is formed for the purpose of purchasing the lease and plant of the Clegir Mawr Lead Mine, situated in the parish of Gwyddelwern, on the borders of the counties of Merioneth and Denbigh, and for vigorously working the Mine on an extended scale. The Welsh term "Clegir Mawr" means in English "The Great Rock," and, therefore, the Mine will be conducted under the name of "The Great Rock Lead Mining Company (Limited)."

The lease is for the long term of 40 years, from 29th September, 1863. Operations have been and are still carried on by a few individuals, and during the six and a half years expired they have expended a very large amount in the development of the property, which has resulted in the intersection of three or four valuable lodes, and the important discoveries of lead ores described in the reports accompanying the prospectus of well-known practical mine managers.

The reports of these inspectors, and their testimony contained therein, as to the highly promising character of the property, and the great local advantages by which it is surrounded, will be read with great interest, and show clearly the strong confidence they have as to the intrinsic value of the property.

The River Clwyd immediately adjoins the sett, and will be available for all necessary mining purposes throughout the year; this of itself is almost invaluable, as compared with the great outlay and expense attending the working of mines by steam power. There is a railway station only about a mile and a half from the property, which renders the carriage of materials and lead ores comparatively moderate.

From the large amount of work already done a great saving of time and expense accrues to the present company, independently of the rich lodes of lead discovered, the importance of which cannot be over-estimated; and, as explained by the mine managers who have inspected the property, the application of additional water machinery, and the adoption of a more vigorous and practical system of working than has hitherto been carried on, will, no doubt, prove in a comparatively short period highly profitable to the shareholders. It may be remarked, that these inspectors were sent at separate times, in order that the independent and unbiased opinion of each might be obtained.

Returns of lead ores can be made from the ground now laid open, but it is considered desirable, with the view of making it a permanently productive property, to extend the levels and sink on the rich lodes already discovered.

The amount to be paid for the purchase of the lease, plant, &c., is £9000. Of this sum 1000 shares in the company, with £4 paid up, will be taken in part payment, as the vendors are desirous of taking a large interest in what they believe will prove to be one of the most valuable mines ever offered to the public, and only requiring a further comparatively small outlay to develop fully and economically the highly-promising lodes already mentioned.

The lead mines of Wales have proved, as is well known, sources of great wealth, and only within the past six or eight months the Van Mine was purchased by a few parties for £49,000, and immediately afterwards a company was constituted to work the Mine in 12,000 shares, at £4 5s. per share (£51,000). Since then the shares have gradually risen, and are now about £25 to £27 each, representing a marketable value of no less than £300,000 to £324,000.

It is not, however, intended to compare the Great Rock Mine with this celebrated Van Mine; although its formation is said to be in many respects somewhat similar, if not even identical, with this and other profitable lead mines in Wales.

It is estimated that a further outlay of only about £2000 will be sufficient to render the Great Rock Mine a profitable undertaking, and it is believed there will be no necessity for any further call on the shareholders beyond the £4 per share.

The highly satisfactory reports by Capt. JOHN KITTO, late agent of the Great Laxey Mines, and now of the Brynpostig and other Welsh Mines; Capt. A. RALPH, Mineral Agent in Wales of Sir William Williams, Bart.; Capt. EDWARD ROGERS, who for several years was agent of the celebrated and profitable Tamar Silver-lead Mines, &c., and now of the Great Western Mines; Capt. R. ROWE, the eminent manager of the Great Laxey Mines; Capt. F. EVANS, Mine Agent (on whose report or recommendation it is stated that the Van Mine was purchased), afford the most conclusive evidence that this property does not partake of that speculative character so often attending mining enterprise. In addition to this, the report of Capt. JOHN KEMP, the Manager of the Mine, shows that after the comparatively small necessary outlay is made, in accordance with his estimate, considerable profits will be realised.

The following are the dates and names to all contracts entered into by the company, in conformity with the Companies Act, 1867:—

Date of contract—8th April, 1869.

Names of parties to the contract—JOHN DENKER of the one part, and WILLIAM JOHN LAVINGTON of the other part.

Prospectuses and reports, with forms of applications for shares may be obtained at the offices of the company; and applications for shares in the form annexed, accompanied with the deposit, may be made either to the bankers of the company—the Alliance Bank (Limited)—or direct to the company's office, 63, Bishopsgate-street Within, London.

FORM OF APPLICATION FOR SHARES—(To be retained by the Bankers).

To the Directors of the Great Rock Lead Mining Company (Limited).

GENTLEMEN,—Having paid to your bankers, the Alliance Bank (Limited), the sum of £1, being a deposit of £1 per share on shares in the above company, I hereby request that you will allot me that number, and I agree to accept such shares (or any less number allotted to me), and to pay the sum of £3 per share on allotment; and I hereby authorise you to place my name on the Register of Members in respect of the shares allotted to me.

Usual signature
Name in full
Residence

Profession or business
Date

Mining Correspondence.

BRITISH MINES.

BWADRAIN CONSOLS.—R. Northey, April 14: The lode in the 25 is of about the same width and value as last reported. There is no change in the value of the other points of the mine, including the stopes, which are producing the usual quantities of stuff. Dressing operations are going on well towards the next sampling.

BWLCH CONSOLS.—R. Northey, April 14: The lode in the 60 is 2 ft. wide, yielding spots of lead ores, and we are expecting a change for the better shortly. The lode in the 50 is 3 ft. wide, and worth 1 ton per fathom. The 30 has been driven through the cross-course reported on March 30; the lode is now about 1 1/2 ft. wide, carrying a mixture of prian, friable quartz, blonde, and stones of lead ores. The stopes generally are without material alteration. The dressing is going on regular towards another sampling.

CAPE CORNWALL.—R. Pryor, J. Davey, April 13: The ground in the 100 cross-cut, north of engine-shaft, is still spar for driving, being mixed with spar, which contains mundic and spots of copper ore, indicating of nearing the lode. In the 70 cross-cut, driving north of shaft, there is scarcely any change to notice since our last report.

CARADON CONSOLS.—S. Bennets: During the past week the north cross-cut has passed several branches of quartz and fluor-spar, intermixed with a little copper; these branches have caused the ground to be comparatively stiff, so that progress has been somewhat slow. The gossan lode in the 78 west end is 1 1/2 ft. wide, composed principally of fluor-spar, gossany matter, and spotted with ore; the capels for 3 ft. to the north are also thickly spotted with ore and mundic. The same lode, east of the cross-course, is smaller just now than we have hitherto seen it. The sinking of the shaft progresses favourably.

CENTRAL, SNAILBEACH.—J. Kitto, April 15: We have cut into the lode in the 300 yard level cross-cut upwards of 12 ft., but have not yet got through to the hanging side; there is a decided improvement in the character of the lode at this point upon anything seen in the lode above, and I am strong of opinion that we shall soon have a good discovery.

CHANTICLEER.—Wm. Wasley, April 15: Good progress is being made with sinking the shaft below the 110 yard level. The joint in the present bottom of the shaft is small and poor, but I think from its kindly appearance that it will not be long before it opens out wider, and produces ore.

COLQUITE AND CALLINGTON.—T. Dodge: The lode in Colquite shaft is 7 ft. wide, mainly mundic; out of this on the footwall there is a branch 9 in. big, with lead and black and yellow copper—this is of a splendid character; also there is lead throughout the lode; the ground is a great deal stiffer for sinking, and we have cut more water. In appearance the lode cannot look better in character before we get the lead. We sampled yesterday 30 tons of mundic, leaving 11 or 12 tons that we did not weight and still dressing. In this branch referred to there is something more than black and yellow copper; it is the general opinion that it is grey silver. I sent some stone to Mr. Jenkins, assayer, and he thought it was grey silver, but could not say for certain without trying a sample, therefore I brought down a sample and sent him. I hope to know to-night or to-morrow morning; my opinion is that it is grey copper, though I must confess it is most like silver. My reason for thinking it is grey copper is because of the black and yellow copper in the same branch.

CUDDRA.—A. Cusby, April 14: We are cutting out the lode in the 142, west of Walker's shaft, with all possible speed, but the lode is so very sparse for progress that we cannot hope much show in a week. The lode as far as seen is pretty good for tin, and I hope when cut out to be able to reach tin to your satisfaction. There is no alteration in any part of the mine to notice.

DEEP LEVEL.—April 14: The lode in the deep level, west of junction, on Pant-y-Go vein, is 18 in. wide, composed of spar, blonde, and containing spots of lead ore, with a good stream of water flowing from the bottom part of the end. In the deep level, going south-west on deep level vein, the lode is about 2 ft. wide, showing spots of lead ore. The winze below the 204 yard level, east of Eytton's shaft, is communicating to the deep adit level, which gives good ventilation; we are putting in a ladder-road in this winze, and as soon as it is completed we shall put six men to drive the 204, east of the winze, where there are good prospects. The lode in the 204, west of Eytton's shaft, on Pant-y-Go vein, is 18 in. wide, with a promising appearance, worth 1 ton of lead ore per fathom. There is no change in the 174, west of Pant-y-Go shaft. The cross-cut driving south at the 202 yard level, east of Pant-y-Go shaft, is now extended 4 yards south of the old level in hard limestone; we calculate we have about 3 ft. more to drive to reach the Pant-y-Go vein. The lode in the 202, west of cross-cut, west of Pant-y-Go shaft, is 4 ft. wide—a fine great lode, composed of spar, blonde, and worth 12 cwt. of lead ore per fm. Our tribute pitches continue to yield their usual quantity of ore.

EAST BOTTLE HILL.—Joseph Eddy, April 15: In the 10, on south lode, the lode is about 4 ft. wide, worth for tin 5s. per fathom, and of a very congenial nature. In the deep adit level, about 15 fms. below the 10, the lode is about 4 ft. wide, worth 6s. per fathom for tin. We intend communicating these levels by

rising in the back of the 25 and sinking in the bottom of the 10, which will give good ventilation, and will open up a large piece of tribute ground. In the adit level, on north copper lode, the lode is about 2 ft. wide, producing good stones of copper ore, of high produce. We shall push on all our operations with vigour.

EAST DARREN.—April 13: Taylor's Shaft: In the 116 east the lode is about 2 yards wide, improved for lead since last reported on; now yielding 1 1/2 ton of ore per fm., and looks very promising for laying open a length of ore ground. In the 104 east the lode is about 1 1/2 yard wide, not looking quite so well for lead, the lode being a little disordered by cross-joints, now yielding 1 1/2 ton of ore per fathom. In the 92 east the lode is from 2 to 3 yards wide, producing 2 tons of ore per fathom. In the 92, west of boundary, no lode has been taken down since last reported on. In the winze sinking below the 68 east, near the present end, the lode is 1 1/2 yard wide, and worth 1 ton per fathom. The 30 has been driven through the cross-course reported on March 30; the lode is now about 1 1/2 ft. wide, carrying a mixture of prian, friable quartz, blonde, and stones of lead ores. The stopes generally are without material alteration. The dressing is going on regular towards another sampling.

EAST GUNNISLAKE AND SOUTH BEDFORD CONSOLS.—James Bray, April 14: We have cleared up the Impham shaft to a depth of 4 fms. I find the eastern end thereof is all taken away; in the western end of same the lode is 6 ft. wide, composed of spar and peach, producing good stones of ore. The Wheal Russell adventurers have commenced to sink a winze in the bottom of the adit, in order to take away their 5 fms. of ground, which is 30 fms. east of Impham shaft; the lode is 4 ft. wide, producing 3 tons of ore per fathom. P.S. The lode in the new shaft at Blaenewm the ground is composed of a light clay-slate, and the men making fair progress in sinking. In the two cross-courses north of New Pool the ground is composed of hard beds of grit, which very much impedes our progress in driving, and no indication of the lode has been seen as yet. Our machinery is in good order, with a good supply of water, and all surface work going on regular.

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EAST PLYNLIMMON.—John Paul, April 14: The adit level taken up in the 20 is in course of sinking in good ground, and within the last few days has intersected one of the lodes, which is as promising as I ever saw one, and, although only 5 fms. deep, it produces tin. We are not yet through it, consequently cannot report its size. We have erected horse-whim, and taken out foundation for engine-house, and no time should be lost in the erection of steam-engine.

EAST PLYNLIMMON.—John Paul, April 14: The adit level taken up in the 20 is in course of sinking in good ground, and within the last few days has intersected one of the lodes, which is as promising as I ever saw one, and, although only 5 fms. deep, it produces tin. We are not yet through it, consequently cannot report its size. We have erected horse-whim, and taken out foundation for engine-house, and no time should be lost in the erection of steam-engine.

EAST ROYALTON.—T. Parkyn, April 15: We have fixed the engine in its place, and the carpenter is now fixing the horses, &c., to carry the rods from the engine to the shaft. We are also fixing the stamps, shaft, bob, &c. The shears are made, and will be lifted up in a day or so. We have also commenced sinking the shaft, and have raised some rich work for tin, so you will see everything being pushed on with all possible dispatch. I have four men sinking a shaft on the great lode, about 150 fathoms east of our engine-shaft; it is in rising ground, and I have good reason to believe we shall have a rich lode here, as we have found some very fine stones of tin at this point. I hope to make another good discovery here, and to be able to report something good next week. The men will be put to sink the engine-shaft, when the engine is set to work, which will be in a few days.

EAST SOUTH CHIVERTON.—J. Nancarrow: The ground in the 20 east is not so favourable for driving as before; the lode is promising, and occasionally we break a little lead. The lode in the rise above the 40 is looking rather better. We are making fair progress in driving the 40 east. The winze below the 40 west is improving, and will yield 12 cwt. of lead per fathom. The lode is strong, and the lead is likely to continue. The 50 west is a little harder, but otherwise there is alteration since last report.

EAST SOUTH TOLGUS.—J. Daw, April 14: Friday last was setting-day. The sumpkins we have set to sink a winze below the 154, on the tin ledge; set to six men, at 3s. per fathom. In the 154, west of No. 2 cross-cut, the lode is 4 ft. wide, worth 20s. per fathom; set to four men, at 12s. per fathom. In the back of the 154, and over No. 2 cross-cut, we have set a rise to six men, at 14s. per fathom, where the lode is 4 ft. wide, worth 25s. per fathom. In the 154, west of No. 3 cross-cut, the lode is 3 ft. wide, worth 17s. per fathom. We have now put the men about 5 fathoms further west to cut into it again; set to four men, at 14s. per fathom. In the stopes in the back of the 154, and west of No. 1 cross-cut, the lode is 3 ft. wide, worth 25s. per fathom; set to four men, at 15s. per fathom. In the 140 west, on the tin ledge, the lode, or part carrying, is 4 ft. wide, worth 2s. per fathom, with still more standing to the south; this we are now cutting through by four men, at 12s. per fathom.

EAST WESTERN.—Edward Rogers, Edmund Rogers, April 14: Fisher's Lode: Thomas's engine-shaft is enlarged, cased, and divided from our surface to the deep adit; the shaftmen are now engaged cutting ground below this level. In the 20, east of the Pressure shaft, the lode is 3 1/2 ft. wide, worth 5s. per fm. The rise in the back of this level is communicated to the winze sunk from the level above, and has gone through a profitable piece of ground, worth in each end of the rise 15s. per fathom. In the 10, driving west of Jones's shaft, the lode is 1 ft. wide, composed of spar, iron, and small patches of granite, with spots of tin. In the 30 end, east of Curtis's engine-shaft, there is no alteration; the lode is 20s. 10s. per fm.—Middle Lode: Curtis's flat-rod shaft is down 2 1/2 fms. below the 20; the lode is 3 ft. wide, worth 3s. per fathom. In the 20 end, driving east of this shaft, the lode is 2 ft. wide, worth 4s. per fathom. In this level west there is no alteration; the lode is 15s. per fathom. In the 7, driving east, the lode is 6 in. wide, producing some good stones of tin. In the 17, from surface, there is no alteration since last reported on; lode worth 2s. per fathom.—South Lode: In the adit level, driving west, the lode is 6 inches wide, producing a little tin.

GWYDYL PARK.—W. Smyth, April 13: There is no particular change in the shaft at Gwyn Llifton since last report. We began boring to-day; the sound seems to the south, also a little ahead of the end, although it does not appear we have much to sink. There is no alteration in the lode in the Vacheslas deep adit.

HILSTON DOWN CONSOLS.—James Richards, April 15: In the stopes near Bailey's shaft, in the bottom of the 130, on the north part of the lode, the lode continues worth 3 tons of ore, or 12s. per fathom. In the stopes in the back of the 130, east of Bailey's shaft, the lode is worth 2 tons of ore, or 8s. per fathom. In the 100, west of Bailey's shaft, the drivage is continued by the side of the lode. In the 85, east of Morris's shaft, there is no improvement in the ground, progress is, therefore, slow. In the 55, east of Morris's shaft, and east of the eastern cross-cut, on the north lode, no lode has been taken down, the ground by the side of which is moderately favourable for progress. In the 55, east of Morris's shaft, at point of horse, the men having secured the ground, they are now engaged opening the sides, and as soon as finished—in the course of three or four days—stopping will be commenced for ascertaining the value of the lode, &c. In the adit level south we are again through the hard branches, and fair progress is being made.

LOVELL CONSOLS.—J. Nancarrow, April 13: The rise above the 12 fm. level is up 4 1/2 fathoms; the lode is unaltered. The winze below the adit is down 4 1/2 fathoms; the lode has improved, and is worth 12s. per fathom. It is now placed beyond all doubt that the lode in the 12 fm. level is not the lode on which the winze is being sunk, and that the tin in the winze and in the bottoms to the east of it is all going down in whole ground to the north of the 12 fm. level. This is a most important matter, as it can soon be worked to profit, and is likely to be the opening up of a good mine.

MINERA UNION.—Wm. T. Harris, April 15: Low's Shaft: The lode discovered in the cross-cut at the 60 yard level is 2 ft. wide, yielding a little lead, but not sufficient to value

black limestone and shale, and fair for progress. The pitch in the bottom of this level south is worth 15 cts. per fathom, and very encouraging for an improvement.—Boundary Shaft: The ground in the 60 yard level north consists of chert and spar; very kindly ground, but unproductive for lead.—Flue Shaft: The lode in the whiz in bottom of the 40 is 2 ft. wide, yielding stones of lead. The pitch in bottom of this level is worth 15 cts. of lead per fathom. The pitches are as last reported.

MAUDLIN.—J. Tregay, April 10: There is a very promising lode in the back of the deep adit, and will produce in the stope 1½ ton of good copper ore per fm. No other change to report.

MOUNT PLEASANT.—William Wasley, April 15: Last Saturday being setting-day, I set to two men to raise ore at Jenkins's shaft, 2 tons per the month, at 9½ per ton, if they should get more than 2 tons, to be at 4½, 10s. per ton, the men to pay for dressing, &c., as they did before. I set to four men to raise ore west of Bright's shaft, at 8½ per ton for ore, and 10s. per yard to drive the main level, where, I am glad to say, they are getting middling good ore, and the end looking very kindly, and as they are driving all in new ground, they may soon strike into a very good run of ore. We have cut the joint, mentioned in my last report, in driving the level east of Bright's shaft, and have sunk about 3 yards on it, from which we get some nice lumps of ore, but not enough to value; I, however, intend to keep on the sinking a little further. We shall commence next week to dress up a lot of ore.

NEW CLIFFORD.—J. Michell, April 15: Owing to a patch of elvan and capels in the north cross-cut our progress has been very slow during these last few days; this very hard and troublesome piece of ground is letting out a quantity of water. I trust we shall soon pass through it and reach Weston's lode, which from shallow indications on the same we have every reason to expect a course of copper ore.

NEW CROWN HILL.—A. Kent, T. Trelease, April 13: The following was our measuring and setting on Saturday last:—At the engine-shaft we measured for last month's sinking 2 fms. 2 ft. 6 in., which makes it 6 fms. 4 ft. 6 in. below the 70; this bargain is re-set to be worked by nine men, at 13s. per fathom, stoned, one month. There is no particular change to notice in the nature of the ground, except that it is a little stiffer.—Wheat Louis: In the 75 south cross-cut we measured for last month's driving 4 fms. 0 ft. 9 in.; re-set to six men, to drive 1 fathom further south, at 5½ per fathom; this cross-cut at present is driving through a mixture of spar and killas. We are inclined to think we are through the lode, but think it necessary to drive 1 fm. further to be fully satisfied concerning it. The nature of the lode we described last week, and we have seen no change since.

NEW DEVON CONSOLS.—Capt. J. Hancock writes of Trewollah: We shall begin shortly putting in the dressing floors, and then prepare a parcel of lead without delay. We have cut the lode at the 32'; there is a quantity of water flowing from it; it is a large, kindly lode, 2½ ft. wide. The north end is producing some good stones of copper ore; this goes to show the stratum is highly mineralised, and I am of opinion, and I am not alone, that it will end in making a bunch of lead. The south end is yielding lead about 5 cts. in a fathom, but there is so much water at present that our men can hardly do half-work. On the level being extended north and south it will not be so great in one place. There is a change of some kind taking place in the 20 fathom level south; the lode has been increasing in size, and is letting out more water than it has done before. The lode is fully 5 feet wide, and the part that yields the lead is more than 2 ft. wide, a great part of which is good saving work. I am much pleased with the appearance of the lode, and if it does not prove very productive I shall be sadly disappointed.

NEW GREAT CONSOLS.—R. Pryor, R. Trathen, Thomas Bennetts, April 12: Saturday last being our pay and setting, the following bargains were set:—The 80 to drive north of Ellis's engine-shaft, in order to cut through the lode, by six men, at 17½ per fathom. We not having as yet cut the north part of the lode at this point are compelled to suspend the sinking of the whiz in the 74, the water being so powerful; but as soon as the lode is cut through in the 86 it will, no doubt, drain this whiz quite dry. No. 1 stope, in back of the 61, to two men, at 8s. per ton; lode worth 8½ per fathom. No. 2 stope, in back of ditto, to four men, at 8s. per ton; lode worth 12½ per fathom. No. 3 stope, in back of ditto, to six men, at 9s. per ton; lode worth 12½ per fathom. No. 4 stope, in back of the 52, to four men, at 8s. per ton; the lode is worth 10½ per fathom. No. 1 stope, in back of the 40, to two men, at 9s. 6d. per ton; lode worth 7½ per fm. No. 2 stope, in back of ditto, to four men, at 9s. 6d. per ton; lode worth 8½ per fm. No. 3 stope, in the back of ditto, to six men, at 7½ per ton; lode worth 14½ per fathom. No. 1 stope, in back of the 30, to two men, at 8s. per ton; lode worth 9½ per fathom. No. 2 stope, in back of ditto, to two men, at 8s. per ton; lode worth 8½ per fathom. No. 1 stope, in bottom of the 20, to four men, at 8s. per ton; the lode is worth 10½ per fathom. No. 2 stope, in bottom of ditto, to two men, at 8s. 6d. per ton; lode worth 10½ per fathom. Rendle's shaft to sink to nine men, at 10½ per fathom, which is being pushed on with all possible speed, in order to communicate with Broadgate shaft. Our pay and setting went off very satisfactorily.

NEW PEMBROKE.—F. Puckey, J. Puckey, April 12: The sinking of the new engine-shaft below the 50 is being forced on as rapidly as possible by eight men and wages men; the ground in the shaft is still favourable for progress. In the 75 cross-cut north, west of the cross-course, we have not yet reached the lode; the end is letting out water, and the ground favourable for driving. In the 75 end, east of the shaft, the lode is disordered and poor; this end is very wet and spare for progress. Our stopes in the back of the 75 are producing good average work for tin. In No. 1 stope, from the western whiz to the cross-course, the lode is 2½ ft. wide, and worth 10½ per fathom. In No. 2 stope, east of the same whiz, the lode is 2½ ft. wide, and worth 16½ per fathom. The lode in No. 3 stope, further east, is a few wide, and in places worth 25½ per fm. In No. 4 stope, the lode is 3 ft. wide, and worth 18½ per fm. In the 45 end, west of the shaft, the lode is 3 feet wide, composed of soft quartz, peach, and tin, and worth for the latter 18½ per fm. We have put our 24 heads of stamps to work, and all our surface operations are being forced on as fast as possible.

NEW TRELEIGH.—S. Michell, April 15: The lode in the new shaft is a little larger than it has been, and discharging more water, and I am daily expecting to see a further change of an increase of ore. The lode in the 78 east is larger and rather harder than it has been, owing to a cross-course that has crossed the end. The stopes in back of this level are without change, worth 5 tons of ore per fathom each. The lode in the 78 west is looking very well. The rise in the back of this level is up 7 feet, and the lode looking very well. I do not see any falling off in any of the bargains in this level and the 78; but I consider the stopes in the back of the 70, west of shaft, are looking better. We are getting on pretty well with the dressing of ore for another sampling.

NEW WHEAL LOVELL.—Chas. Badwin, J. Priske, April 15: Since the last meeting the mine has improved. The 50, east of Lanyon's, is now producing good stones of tin, with every prospect of improvement. The lode in the whiz sinking below the 20, east of Colonel's, is for its size 2 ft. wide, a good course of tin. The lode in the 30 east, coming in under it, is worth 15½ per fathom. The lode in the 20, west of Colonel's, on south lode, is about 1 ft. wide, producing surface work. Other places without alteration.

NEW WHEAL TOWAN.—R. Pryor, April 14: The lode in the stopes is looking much better, and producing some good quality copper ore. These stopes were set again on Friday last, to four men, at 4½, 10s. per fathom. We shall be shortly able to drive the deep adit level west of cross-cut, in a good lode of ore.

NORTH CROFTY.—J. Vivian and Son, W. Thomas, Jun., April 15: In the 18½ west of Petherick's shaft, the lode is worth 15½ per fm. for tin and copper ore. In the whiz sinking under the 19½, 4 fathoms behind the present end, the lode is worth 30½ per fathom. In the 20½ west, 18 fathoms behind the aforesaid whiz, the lode produces good stones of copper ore. The eastern levels, progress very well, but without any change to notice. Our pitches produce their usual quantities of tin.

NORTH DOWNS.—F. Pryor, J. Williams, April 13: The following is our report, which we consider will be satisfactory to the shareholders, the principal point being the improvement in the sump-whiz, down 9 fms. below the 60, and worth 20½ per fm. After sinking about 2 fms. more we shall commence to drive east and west to make a 70 fm. level. At a proper time we shall again resume the sinking of this whiz to the 85, so as to communicate to the 85, which we are driving as fast as possible; this end is letting out a great deal of water, and although spare for driving, we regard it as a good indication, judging from former results. The trial rise, in back of the 40, at this time is disordered by the influence of a different channel of ground; we shall shortly see the effect it will have on the lode; it is to be hoped for the better. There is nothing else to report; now worth 30½ per fathom.—Standard Lode: The lode in the pitch working in the back of the 100, east on the Standard, is 2 ft. wide, presenting a kindly appearance, and worth 12½ per fathom. The 90 end, on this lode, produces saving quality tin-stuff, and is about 7 fms. behind the present 100 end; at this point, when reached, which we calculate will occupy two months, an improvement may be expected. We have, during the past month, resumed the driving of the 50, and the 40 on this lode, which are opening up tribute ground.—Eastern Lode: The Carbona in this section of the mine, on the north part, is still large, and worth 30½ per fathom; and going south the lode is worth 25½ per fathom. The lode in the back is worth 12½ per fathom. No further change in any other part of the mines.

SOUTH CONDURROW.—J. Vivian and Son, Wm. Williams, April 10: The water is falling off, and we should quickly have drained the 93 but for the mud and slimes, which have accumulated on the soil at the 82, and created a temporary difficulty, which, however, will be got over in a few days. In the 71, west of King's shaft, we are driving on the south part of the lode, and carrying about 6 ft. of it, which is of moderate quality tin-stuff. In the 61, west of King's shaft, the lode continues to improve, and is now worth 45½ per fm., with every appearance of improving. In the 51, north, west of King's shaft, we continue to meet with branches, composed of good tin-stuff. In the 20, east of Tyc shaft, the lode is 2 ft. wide, composed of tin-stuff of paying quality, and looking likely to improve. The stopes are without alteration; and there is nothing in the other parts of the mine requiring particular notice.

SOUTH DARREN.—J. Boundy, W. H. Boundy, April 12: The lode in the 70 west is 3½ ft. wide, and worth for lead and copper ore 20½ per fm., and promising a further improvement. The lode in the 60 west is 18 in. wide, presenting a favourable appearance for ore. The lode in the 50 west is 1 ft. wide, containing a little lead and copper ore, and promising for improvement. The stopes are much the same in appearance as last reported. The other parts of the mine are without change.

SOUTH GREAT WORK.—S. J. Reed, April 15: The new shaft has been communicated to the 17, thereby producing good ventilation throughout the mine, and an easy discharge for the stuff. In driving west, Wheal Giant lode has improved in appearance, worth for tin 4½ per fm. The copper lode yields stones of tin and copper ore, and likely to improve; it is now 1½ ft. wide. We have some good piles of tin-stuff at surface.

SOUTH HERBOSFOOT.—W. Goldsworthy, April 15: The ground in the cross-cut in the 100 fm. level is still a most promising character, and good progress is being made in driving.

SOUTH MERLLYN.—H. R. Harvey, April 14: The lode in the 40 south is now worth 5½ per fathom for lead; we have extended this end about 4 fms., and I am happy to say that the ground has become softer; the end being now set to drive south from Bartlett's shaft, at 4½, 10s. per fathom. The 40 north has been driven about 8 ft.; this lode is very kindly for ore, being 3 ft. wide, and full of spar and beautiful white limestone. I am certain we shall soon intersect lead here, and it is a short distance driving. The tribute pitch in the 30, south of Harvey's shaft, is worth about 8½ per fathom, and looking well.

SOUTH WHEAL GREENVILLE.—G. R. Odgers, W. Bennetts, April 10: The lode in the 42, west from the engine-shaft, is getting softer, which contains spots of grey ore, hence we think this looks more favourable.

SOUTH JUST AMALGAMATED.—R. Pryor, T. Gundry, N. Bartle, April 13: Saven's Lode: The lode in the 110, driving east of engine-shaft, is worth 30½ per fm. The lode in the 100, driving east of shaft, is worth 4½ per fm. In this level, driving west of shaft, the lode is worth 4½ per fm. The lode in the 90, driving west, is worth 5½ per fathom. The lode in the 76, driving west of cross-cut, on the south branch, is worth 4½ per fathom. The lode in the 62, driving west of cross-cut, is at present not to value. The lode in the whiz sinking below this level is worth 7½ per fathom.—North Lode: The lode in the 40, east of shaft, is worth 5½ per fathom.—Owl Lode: The lode in the 20, driving north of Reddipper shaft, is worth 5½ per fathom. The lode in the 10, driving north of ditto, is worth 6½ per fathom. The lode in the whiz sinking below this level, will yield 5 tons of ore per fathom. The lode in the 10, driving west on the north branch, is worth 5½ per fathom. The lode in the 20, driving east of shaft, is worth 4½ per fathom. The lode in the 20, driving west of shaft, is worth 2½ per fathom. The lode in the 20, driving east of shaft, is worth 4½ per fathom. The lode in the 20, driving west of shaft, is worth 2½ per fathom.

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SOUTH WHEAL GREEN

may be asked why it is offered? The same question equally applies to the now celebrated rich VAN MINE, which was bought a few months since at less than \$50,000, and is now selling at the rate of \$30,000, and considered by good judges not yet to have attained its maximum. The question would also have applied to WEST CHIVERTON, which was bought for \$30,000, and in a few months after was selling at \$50,000, and had paid \$37.7s. 6d. per share in dividends. All who have inspected the Great Rock Mine can, I feel confident, arrive at no other conclusion but that it contains all the elements of a very great lead mine. There are only a limited number of shares, and those who get them may consider themselves very fortunate, as they will, in all probability, command a high figure upon the real merits of the property. Anyone desirous of having the property inspected may obtain an order by applying to the office of the company. It is very probable that the share list will be closed next week. I, therefore, advise an immediate application, in order to secure an allotment in this *bona fide* undertaking.

CWM DARREN.—The directors of this company have determined to change the management of their works, and the reports of Capt. Rich. Williams are encouraging as to the ultimate success of the concern. He visited the mine on April 10, and observed that the engine-shaft and its unfavourable position having been already described, it need not be remarked upon. In the adit, driving west of the river by a full men, there is a very promising lode indeed, having a regular lead on the south, producing good stones of ore, of a very rich quality, and the lode generally is well defined, while the bounding rocks of a most congenial character for the production of lead ore, far more so, in his opinion, than at the point of operation east. He, therefore, recommends them to force this point onwards by a full complement of men, and if need be to suspend the driving west at the winze, and place the men here; the end would be advancing into deeper ground, and through a fine piece of mineral property towards the Old Darren. Speaking of the prospects at the shaft, he would say while that part of the property is doubtless worthy of exploration as a speculation, there is no prospect of immediate success. The whole of the lead-bearing stuff drawn from the mine has been crushed, and of crop ore there is now dressed about 28 or 30 cwt., and there is some to be taken from the slimes, which may be ready by next Thursday, and the whole will be about 3 tons. On April 18 he writes that from the present state of the mine there will not be any dressing hands required, until the ends shall have opened up some ore ground, which he hopes to see shortly, in the eastern end in particular, judging from the ore gone down in the level above. The lode is large, and the time, he thinks, not far distant when they may expect a good mine. The locality in which the property is situated (Cardiganshire) is such as to warrant the fullest confidence in a practical and vigorous development.

THE BRYNSTWITH MINE.—Notwithstanding that this well-known Cardiganshire Mine has scarcely yet been brought into anything like a fair working condition, the value and importance of the discoveries already made point to the early realisation of those satisfactory results which all practical authorities in the locality have anticipated so soon as the working had been commenced upon a scale, and with a spirit, equal to its resources. It is understood that one of the most experienced lead miners in Wales has, after a minute inspection of the property, agreed to undertake the management. The whole of the extensive workings are drained by means of an adit, which cost many thousand pounds to complete, consequently no outlay is required either for the purchase or maintenance of steam-power. The River Ystwth runs at the base of the mountain, which forms the mine, so that every natural facility is provided for dressing the ore, and conducting every detail in a most economical manner. Upon the authority of those whose practical ability and position entitle their opinion to every respect, it is at least within the range of probability that Brynstwith will at no very distant date successfully compete with its rich neighbours, the Cwymystwith and the Lisburne Mines; the former of which has returned in dividends no less than 385 per (60%) share, and the latter 512 per (18.15%) share. The local director (who has a considerable stake in the company) has informed the board that the latest discovery is a lode producing not less than 2 tons of ore per fathom. This discovery has been made at a depth of 120 fathoms below the bottom of the whim-shaft, where the lode was left standing worth something like the same value as that now opened out at the depth of 120 fms. Trial pits from the surface have proved the existence of the lode for several hundred fathoms. Considering the favourable conditions under which this discovery has been made, it appears that its importance upon the future value of the property cannot well be overestimated.

DON PEDRO.—At the extraordinary meeting, on Thursday, under the Presidency of Mr. Henry Haymen, the special resolution passed at the previous meeting was confirmed, by which Mr. Dawson was appointed the managing director of the company. The Chairman said that although he could not state the precise details, he had no doubt the dividend for the first quarter of the financial year will exceed the amount paid for the corresponding period of last year.

FRONTINO AND BOLIVIA.—It is understood that Mr. Foakes has been elected Chairman of this company, and that Mr. C. Martin has been appointed to a seat at the board. The forthcoming advices are awaited with considerable interest.

CHONTALES.—The reports received by the last mail appear in another column. It is satisfactory to find that the general prospects of the mine continue to gradually improve, and that the levels in Consuelo and San Domingo—two of the most important portions of the company's property—are opening out most encouragingly as they advance into whole ground. The remittance of gold is 642 ozs., from 1560 tons of ore, so that the average yield is now nearly 8 dwt. per ton. It may be recollected that Mr. Bell's estimates were based upon only 5½ dwt. The general health of the establishment is good.

THE GOLD FIELDS OF NEW ZEALAND.—The extraordinary yield of gold reported by every mail from the Thames Gold Fields, in the province of Auckland, has, as we have for some time anticipated it would, brought out an enterprise calculated to enlist the employment of English capital. The quotations and extracts from the colonial papers almost surpass belief; and not only are they repeated mail after mail, but as the reefs become more developed each report from the mines surpasses the one that preceded it. The surprising return of 1500 ozs. of gold in 16 hours' crushing, and 5207 ozs. in four days, as quoted in the Money Article of the Times of Oct. 1, 1868, and an immense number of equally astonishing returns, as quoted in the prospectus of the New Zealand Quartz Crushing and Gold Mining Company, but being chiefly from small quantities of quartz, we considered them as merely the results of picked specimens, and by no means a criterion of what the reefs really would produce. However, the last mail which arrived in London, on March 26, shows that it is no longer specimens which are giving these returns, but hundreds of tons of quartz from the auriferous reefs themselves. The Daily Southern Cross, published in Auckland, January 16, 1869, says "13,933 ozs. of gold have been extracted from 981 tons of stone." The general average has been considerably over 14 ozs. to the ton on the total quantity crushed." The same paper, still further speaking of Souter's battery, says "4571 ozs. were extracted from 266 tons of stone, or an average of over 17 ozs. to the ton." These are no specimen figures, but really show the wealth of the Thames gold fields. The great drawback appears to be the want of machinery, as the Shortlands Times of Dec. 24 says—"Hundreds of thousands of tons of quartz are piled in all directions, waiting for nothing but the mechanical application of machinery." This may be referred to, as it is reprinted in London, in the Australian and New Zealand Gazette, Feb. 27, 1869. We are, therefore, pleased to see an enterprise on foot for the purpose of supplying this want; and such is the confidence of success expressed by the manager that he takes his entire remuneration in paid-up shares, and a small percentage on the profits made, which he estimates at 76 per cent., and this to be derived from crushing, at the very moderate rate of 18s. 9d. per ton, though it is well known that much higher rates are being paid at the mines, and even at the very moderate rate of 15s. per ton, and an ample allowance for expenses, a clear 45 per cent. may be fairly calculated upon. In many cases the old system of "halves" will be adopted with the miners, particularly when reefs, as stated in the New Zealand Herald, Dec. 2, 1868, have been thrown up because the owners had no machinery, and because they could not obtain more than 2 to 3 ozs. to the ton. The undertaking appears to possess every element of success, and the direction is highly respectable; and an engineer of great ability and 17 years' experience, recommended by Messrs. John Taylor and Sons, has been engaged to erect and conduct the works.

STATISTICS OF NEVADA SILVER PRODUCTION.—The Comstock lode produced—up to April 1, 1868, \$51,380,580; since then an average of \$11,000,000 annually, or a total of \$85,000,000 to April, 1869. The Gould and Curry, from 1860 to 1868, yielded \$13,626,871, or 230,546 tons of ore, or \$59 per ton, the content afterwards falling off to \$18.14. The Savage yielded in seven years preceding July, 1868, \$11,327,700, from 270,521 tons of ore, or \$41 to the ton. The cost of reduction at Virginia city was originally about \$30 to the

ton, and now stands at about \$20, where it will remain until cheaper agencies or methods are introduced. From Lander county (including White Pine) a three months' return ending Dec. 31, 1868, shows that 49 mines have produced 2493 tons of ore, yielding \$870,554.45, or an average of \$349.20 to the ton. With the possession of the Comstock Lode and the White Pine district, Nevada can "flourish her silver scepter in the face of all the world."—*Mining and Scientific Press* (San Francisco).

* * * With next week's Journal will be published a **SUPPLEMENTAL SHEET**, in which several of Prof. Smyth's Lectures at the Royal School of Mines will appear; also Reviews of Mr. Sandberg's Translation of Mr. Knut Styffe's Report upon the Experiments made for the Swedish Government Committee on Iron and Steel; of Messrs. Crookes and Röhrig's Translation of Karl's Metallurgy (Vol. II.—Copper and Iron); of Mr. F. W. Campin's Manual of the Law of Patents of Invention, &c.

The Mining Market; Prices of Metals, Ores, &c.

METAL MARKET—LONDON, APRIL 16, 1869.

COPPER.	£	s.	d.	COPPER.	IRON.	Per ton.
Best selected, p. ton	79	0	0	Tough cake and tile	77	0 78 0 0
Sheathing & sheets	80	0	0	80	6	6 15
Bolts	81	0	0	81	0	6 7 5
Bottoms	83	0	0	84	0 0	6 8 10
Old (Exchangers)	65	0	0	70	0	9 10
Burra Burra	81	0	0	Hoops	81	0 9 15
Wire	0	1	0	Sheets, single	9	0 11 0 0
Tubes	0	1	12	Pig No. 1, in Wales	3	15 0 4 5

BRASS. Per lb.

Sheets	per lb.	9d.
Wire	per lb.	8d. 8d.
Tubes	per lb.	10d. 11d.

SPELTER. Per ton.

Yellow Metal Sheath, p. lb.	7d.
Sheets	6d.

SPELTER. Per ton.

Foreign on the spot	£20	7	6 20	10
To arrive...	20	10	0	—

ZINC. Per ton.

TIN.	Per ton.
English blocks	130 0 0
Do., bars (in barrels)	131 0 0
Do., refined	136 0 0
Banca	138 0 0
Straits	132 0 0

TIN-PLATES.* Per box.

IRON.	Per ton.
English Pig, com.	19 10 0
Ditto, LB.	19 15 0
Ditto, 1st quality	1 14 0 1 16 0
Ditto, 2d quality	1 7 0 1 8 0
Ditto, 2d quality	1 13 0 1 14 0
IX Coke	1 5 0 1 6 0
IX Ditto	1 11 0 1 12 0
Canadians, p. ton	18 10 0
Ditto, at works	12 10 0

STEEL. Per ton.

Swed., in kegs (rolled)	15 0 15 10
(hammered)	15 0 15 10
Ditto, in faggots	16 0 0
English, spring	17 0 23 0 0

QUICKSILVER (p. bottle) 6 17 0 0

* At the works, 1s. to 1s. 6d. per box less.

REMARKS.—The Metal Market during the past week has presented rather a quiet aspect, the animation which had been manifested in the course of the previous fortnight not having been maintained; indeed, it often happens after a very lively period in any particular metal, with a considerable amount of business transacted, that it is followed for a short time by a slackness in business, which is the more noticeable after the former activity; we trust, however, that this return to quietness will not be of any duration, but that we shall speedily resume an active condition of the market; and probably some other metal may take a turn of special animation for a period; and we do not at all anticipate any permanent retrograde movement in the metal trade, as there seems to be a general anticipation that as the season advances we shall find a marked improvement in the trade generally, and a considerable accession to the operations which are now taking place. The general aspect of affairs in Europe is such as to lead to the belief that commercial affairs will proceed very prosperously; and although in America the Senate have rejected the Alabama treaty, which it was hoped would have been the means of producing a settlement of those claims, yet we do not look upon this as at all likely to lead to any difficulties between the United States and this country, or that it will in any way interfere with the large extent of our commercial relations. We presume the matter will now be allowed to stand over, at all events for the present, and that no further steps will be taken to come to any settlement on the subject. Orders from India are not quite so numerous as they were, although the last advices were not of an unfavourable character, and we hope, therefore, that they will soon resume their former abundance.

COPPER.—There is a firmer tone apparent in the market for this metal, and rather more business has been done: 600 tons of regulus have been sold at 14s. 3d. per unit, and Chill bar has been sold at 71l. 10s., sellers now holding for 72l., and 100 tons for distant arrival has realised 73l. to 73l. 10s. English tough cake is also rather higher. IRON.—In Staffordshire the Quarterly Meetings have not at present made any addition to the orders in hand, and a considerable proportion of the works are not making more than half their full production. There is a tolerably good demand for sheets, hoops, and small sizes of bars, but as yet the plate mills are very short of orders. There is, however, a general disposition to anticipate an improved demand ere long. In Welsh the result of the Quarterly Meetings has imparted increased confidence in the trade, makers being of opinion that better prices will shortly prevail. At present but few contracts are in the market, and there would be no disposition to accept heavy engagements at the current quotations. American advices are encouraging, and there is a prospect of a further increase in the demand from that quarter. Several Russian contracts are in course of execution. Last month the exports reached 32,409 tons, the largest quantity cleared in one month for a long time past. In Swedish iron not much is doing at present. In Scotch pig-iron the market has been quiet, and prices have rather declined, the last price received from Glasgow being 52s. 9d. cash and 53s. one month.

LEAD.—The market continues steady, but not quite so active as it has lately been.

TIN.—On Monday the smelters of English announced a reduction of 3d. per ton, making present prices 130d. for blocks, 131d. for bars, and 136d. for refined. During the former part of the week Straits remained in a drooping condition, and sales were made at 131d. and 130d. cash, and for July delivery at 127l. Latterly, however, the market has improved, and business has been done at 131d., while holders now ask 132d., and it is not improbable that we may again see higher prices.

SPELTER is still in an inactive condition. Sales on the spot have been made at 207. 7s. 6d. to 207. 10s., which is still the quotation.

TIN-PLATES command a fair enquiry at the advanced prices, and unless the make is extended higher prices are by no means improbable.

STEEL and QUICKSILVER without change.

THE COPPER TRADE.—**Messrs. Pitcairn-Campbell and Co. (Liverpool, April 15).**—A decided change for the better has taken place in the tone of the market, and a very large business has been concluded both in ores, regulus, and Chill bars, the feeling at the close being strong, with an upward tendency in prices. English copper is also firmer, the trade generally showing more confidence than for some time past. Business transacted during the fortnight comprises—On the spot here, 523 tons bars, at 70l. 10s. to 71l.; to arrive here, 2874 tons regulus, at 14l. to 14s. 3d.; and 946 tons bars, at 71l. to 72l. 10s. On the spot at Swansea, 1360 tons regulus, at 14s. 3d. To arrive at Swansea, 1055 tons regulus, at 14s. 1d.; to 14s. 3d.; and 400 tons ore, at 14d. 1d., or about 420 tons fine copper: 1290 tons Newfoundland and Italian ore, sold at Swansea, 14s. 3d. per unit. Quotations are 71l. 10s. to 72l. for Chill bars; 76l. to 77l. for ingots; 14s. 3d. for ore and regulus; 15s. for Corcoran Barilla. Arrivals here during the fortnight from West Coast

quire the lease (for the term of 40 years from 1863), plant, &c., for 9000*l.*, of which the vendors, desirous of retaining a large interest in the enterprise, have stipulated that 4000*l.* should be in the shape of 1000 shares, credited with 4*l.* paid. It is computed that about 2000*l.* will be sufficient to bring the mine into a profitable condition. Among the various authorities who have inspected and reported upon Great Rock are Capt. John Kitto (late agent of the Great Laxey), and now of Brynpostig, Mid-Wales, and other Welsh mines), who states that "it is but seldom in the whole course of his experience that he has seen a young mine possessing equal prospects and advantages;" Capt. Rogers, who states that he has been for many years engaged in lead mining in Devon, Cornwall, Wales, and Ireland, and for nine years an agent at the once celebrated Tamar Silver-Lead Mines, and inspected lead mines in different parts of the world, but he never saw such facilities throughout as there are at Great Rock, together with the favourable character of the lodes for the production of lead ores. Equally satisfactory testimony as to the intrinsic value of the property is borne by Capt. Ralph (mineral agent in Wales of Sir Wm. Williams, Bart.), Capt. Rowe (of Great Baxey), Capt. F. Evans, and others. The undertaking is divided into 3000 (5*l.*) shares, of which 1*l.* is to be paid on application, and 3*l.* on allotment. The local directors are Messrs. W. Parry, G. Hughes (Old Hall), and R. Harrison (Castle Hill), Holywell.

The SOUTH POLBERROW TIN MINING COMPANY has been formed, with the object of purchasing for 3000*l.* the lease of and working the mine of the same name, situated in the parish of St. Agnes, one of the best tin districts in Cornwall. The capital is fixed at 8000*l.*, divided into shares of 2*l.* each. The lodes traversing the sett have proved very rich in the mines immediately to the east and west of the boundary, while the workings in the grant have already opened upon good courses of tin, similar to those found in the mines to the east and west at the same depth, thus placing its value beyond doubt. The mine can be worked to a considerable extent without the aid of expensive machinery, there being sufficient water-power for all practical purposes, and the rich lodes can be opened upon by the driving of adits about 60 fms. deep, an advantage seldom met with in Cornwall. It is within two miles of the shipping port of St. Agnes, rendering the shipment of ore easy, and the carriage of materials cheap. The lease is for 21 years, from December, 1866, and is granted by the Duchy of Cornwall at 20*l.* per annum minimum rental, merging into a royalty of 1-15*l.*, reducible to 1-20*l.* after erection of engine. The property has been favourably reported upon by Capts. W. Paul, John Davies, R. Davies, John Nancarrow, James Evans, and James Crase, who concur in expressing a high opinion of its value.

The Standards of Tin Ores and Prices of Metal were reduced on Monday, and are now as follows:—Ores: Common, 117*s.*; superior common, 118*s.*; fine, 119*s.*; superfine, 120*s.*—Metal: Common, 130*s.*; refined, 136*s.*

At the Dolcoath Mine meeting, on Monday, the accounts for January and February showed a credit balance of 4187*l.* 10*s.* 9*d.* The profit on the two months' working of 3816*l.* 17*s.* 6*d.* A dividend of 3580*l.* (6*l.* per share) was declared, and 607*l.* 10*s.* 9*d.* was carried to credit of next account. Capts. Josiah Thomas, W. Provis, J. Tonkin, and J. Bawden, reported upon the various points of operation.

At West Wheal Seton bi-monthly meeting, on Tuesday, the accounts showed a credit balance of 3458*l.* 3*s.* 10*d.* A dividend of 2400*l.* (6*l.* per share) was declared. Capts. Bath, Jennings, and Tregoning, in their report, say—"We have made every necessary arrangement preparatory to sinking the new shaft, in accordance with the instructions given us at the last account, and we hope to commence operations in the course of a week. This shaft will take the lode at the 110'; it will be north of Hidderley's shaft about 100 fms., and west about 38 fms., and will be found in a good position for commanding both the western and eastern ground."

At Marke Valley Mine meeting, on Thursday (Mr. B. Warburton in the chair), the accounts to date showed a credit balance of 2679*l.* 12*s.* 11*d.* The profit on the three months' working was 2235*l.* 11*s.* 10*d.* A dividend of 2250*l.* (5*l.* per share) was declared. Captain John Truscott reported upon the various points of operation.

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THE NEW ZEALAND QUARTZ CRUSHING AND GOLD MINING COMPANY (LIMITED),

CAPITAL, £50,000, IN 25,000 SHARES.

First issue, £25,000, in 12,500 shares of £2 each; 10s. to be paid on application, and 15s. on allotment; the remainder three months after. No further capital called without consent of shareholders.

DIRECTORS.

EDWIN LANKESTER, M.D., F.R.S., Coroner for Middlesex—CHAIRMAN.
Major-General DOWNING, Director of the Don Pedro Gold Mining Company.
J. GOULD AVERY, Director of the Great Britain Mutual Life Society.
Hon. J. TOBIN, Chairman of Trustees, Nevada Properties Trust.
G. KERR (Gibson, Kerr, and Co.), 3, Abchurch-lane, E.C.

A BRIDGED PROSPECTUS.

The object is to employ machinery on the Thames Gold Field. It is easy of access, and the reefs contain an amount of gold exceeding any ever yet recorded—15 out of 700 square miles, auriferous, are only yet occupied. Authentic information states that out of the 1500 claims open not 50 have machinery, and the miners, said to be 15,000, knock out the gold with hammers, and an instrument like a pavilion's hammer.

Manukau Claim realised 356 ozs. from 25 tons of stone; Kelly's Claim, 8307 ozs. in five weeks' crushing; Heldt's Claim, 75 ozs. from 10 tons of quartz; Golden Crown Claim realised 2524 ozs. from 97 tons of stone; Lucky Hit Claim, 77 ozs. from 1 cwt. of stone; Prince of Wales yielded at the rate of 29 ozs. to the ton. Sink to River, 86 ozs. from 1 cwt. of stone; Just in Time, 8 ozs. from 2 cwt. of stone; Tapu Gold Mining Company, 32 tons yield 113 ozs. retarded gold. The yield of 5 cts. of stone from Golden Crown Claim was 2000 ozs. A bet is made that 5000 ozs. of gold will be got out of a ton of stone from this claim, &c.—See Daily Southern Cross, Nov. 2, 1868.

From Hunt's Claim the yield of 1500 ozs. was obtained from 16 hours' crushing, and in four days the out-turn was 5207 ozs.—See Money Article of the Times, Oct. 1, 1868.

There are thousands of tons of stone lying waiting for machinery.—New Zealand Herald, Nov. 2, 1868.

The want of crushing machinery suited to the peculiar fineness of the gold is at present the greatest drawback to the progress of this field, but only second to it is the insufficient number of any sort of machines that will save gold.—Southern Cross.

The Shortland Times, Dec. 24, says hundreds of thousands of tons of quartz are piled in all directions, waiting for machinery.

To supply this demand for machinery, and to work for the miners, and crush at per ton, or the rate ruling at the mines, and also on the usual terms of sharing the profits, is the object in view, for which purpose the directors have engaged a gentleman of high character, well experienced in Australian gold mining, who has agreed to make his remuneration entirely depend on success, by accepting a proportion of fully paid shares, and a small percentage on the profits.

Advantages are freedom from risk or speculation, and lowest estimate of profit is shown to be 76 per cent. See full prospectus.

An engineer of character and ability, and 17 years' experience in quartz crushing and gold refining, has been provisionally engaged.

Complete prospectuses, form of application, and manager's plan of operations, can be had by applying to the bankers, Messrs. POWERS and DAVIS, or to the Secretary, at the temporary offices of the company, 28, Moorgate-street, City. JOSEPH SIMPSON, Secretary.

NOTICES TO CORRESPONDENTS.

GREAT WHEAL VOR.—The market price of this mine has increased in value during the last three months more than 50,000/. Is this increased value owing to discoveries in the mine, or to the advance in the price of tin? I think that when there is a discovery Mr. Noakes, the purser, ought to inform the shareholders of it. Whatever he says is readily believed, but shareholders read with suspicion the circulars of mine brokers.—A SHAREHOLDER.

GREAT WHEAL VOR.—There have been so many conflicting reports lately as to the actual state of this mine and its future prospects, that I beg you will allow me to state that the mine was carefully and minutely examined last week, on my behalf, by Capt. Edwin Ridlington, of Helston (acting as a friend, and not as a paid agent); and that he reports the value of the various lodes at present to be no less in the aggregate than 325/, per fathom, with every prospect of rapid improvement in many points of great importance. The discovery at the 157, under Edwards's shaft, he values at 35/- per fathom, and 2 ft. behind the end, "a splendid lode, worth 150/- per fathom." Shareholders may accept the above condensed report as perfectly and entirely reliable.—ONE OF THE LARGEST SHAREHOLDERS.

CENTRAL SNAILBEACH (Salop).—Can any party connected with this mine inform me how we are to understand the varied reports issued by Capt. John Kiltz?—On March 15 a report was issued to some of the shareholders, but not all, informing them that he had driven through the lode in the 200 yard level cross cut; that it was 4½ ft. wide, looking promising, &c. In last Saturday's Journal appears a report, stating that he was not through the lode (as he had before stated), but had ordered the men to drive through it, which ought to have been done when the lode was reached. Would any practical miner or manager have neglected driving through at once under existing circumstances of the company, or under any circumstances, for over a month? and especially, as he has admitted the hanging side being "the Invariable" side on which ore has been discovered above, which is true. Can I be informed why the ore he admits as discovered above has not been got, to prevent the present crisis and our threatened winding-up? Could not some of the ore discovered above have been got as cheaply some years ago as it will be ever possible to get it in the 124 yard level sump, and more than 1½ year ago in the 164? Why has it not been brought to bank to show the real value of the mine? which has not been done, only in "tall talk"—not understood fully, or believed by many of the proprietors. If it had, would there have been need to raise more capital? May I ask is there not urgent necessity for immediate change in the policy and management of our mine, ere it be too late?—A SHAREHOLDER.

ASSAYING ORES AND MINERALS.—The best works to consult upon this subject are—Manual of Practical Assaying, by John Mitchell: new edition, revised by William Crookes, published by Longmans and Co. Manual of Chemical Analysis, by Dr. Noad, published by Lovell Reeve. Technical Analysis, by Dr. Paul (partly a translation from Dr. Bolley's Handbuch der Technischen Chemischen Untersuchungen), published by Bohn, York-street, Covent Garden. The two last are excellent manuals, and very cheap.

THE MINING JOURNAL, Railway and Commercial Gazette.

LONDON, APRIL 17, 1869.

ARBITRATION IN THE IRON TRADE.

Mr. RUPERT KETTLE has not only accepted the position of umpire, to determine the difference on the point of wages between the iron-masters of the North of England and their men, but he has already taken the first step towards a solution of the question. On Monday he met the Standing Committee at Darlington; ascertained the precise points of difference between the two sides; and was furnished with documentary testimony in further elucidation of the respective contentions. This he carried away with him to his residence in Wolverhampton. After having made himself familiar with the contents of the documents, he will express himself upon them in writing a few days hence, so as the better to guide the Committee as to the nature of the further information which he may desire should be brought before him on April 30 and May 1, when both sides will again meet, to finally adjust the existing difference.

The Journal has taken advantage of all fitting occasions to express its satisfaction at every step taken by either masters or men, calculated to promote the existence of the amicable relationship which is necessary to the prosperity of both, and the maintenance of our trade. The results which have followed upon the adoption of the methods of conciliation or arbitration, as the case may be, with which the name of Mr. KETTLE is associated in the building trades, that of Mr. MUNDELLA in the lace trades, and that, again, of Mr. HOLLINS in the potters' trade, seem to point irresistibly to means of adjustment of differences between master and man, such as should be cultivated wherever possible. The importance which the Trades Union Commissioners attach to them is thus set forth in the report which the majority adopted, and which bears the names of seven of the whole number:—

"These boards (mentioning those only in Nottingham and in the potters' trade) require no complicated machinery, no novel division of profits, no new mode of conducting business; they need no Act of Parliament, no legal powers or penalties. All that is needed is that certain representative employers and workmen should meet at regular stated times, and amicably discuss around a table the common interests of their common trade or business. There is not a trade or business in the United Kingdom in which this system might not at once be adopted; and we see no reason why, in every case, results should not follow from the establishment of Boards of Conciliation, as satisfactory as those at Nottingham and in the Potteries. Under such a system we should look hopefully for a peaceful and prosperous future for the industry of this country. And if this Commission were to have no other result than to be the means of drawing attention thus pointedly to this simple, speedy, practical way, not so much of settling, as of anticipating and preventing, disputes between masters and workmen, and of establishing lasting friendly relations between capital and labour, we believe our time will not have been mispent, and that good will come of our enquiry."

But, unfortunately, the first attempt to apply conciliation to the iron trade has hitherto proved a failure. This has been brought about by two causes chiefly. In the first place, an efficient code of rules had not been laid down; and in the next the discussions did not take place under the guidance of a Chairman who, uninterested peculiarly in the result, would take care to keep both sides so closely to the relevant point of argument as to prevent the saying of that on either side which would commit the parties to a course of action which would not otherwise be pursued.

Upon both these points the testimony of Messrs. HUGHES and HARRISON, in their joint report, is:—

"It appears to us that the fact most plainly visible throughout the evidence is the uniform approval of a system of working rules agreed to between employers and employed, and still further of the existence of some recognised Board of Arbitration to give these rules consistency, and to interpret their effect. The

said that a similar institution at West Bromwich is to have a share. These objects are, no doubt, good, and so are many others which might be named, but the bestowal of these funds upon them would not be acting in accordance with the spirit which prompted the gifts, and it would be to miss a great opportunity for establishing amongst miners a permanent means of providing for the sufferers by accidents, whether the injured, or those dependent on the killed. Have the working miners nothing to say on this question?

THE COLLIERY DISPUTES IN YORKSHIRE.

Seeing that another of those severe struggles between capital and labour which have rendered the colliery districts in South Yorkshire so notorious for many years past is now taking place, a brief *resume* of the actual position of affairs may not be without interest. For some months past we have prepared our readers for a change in the relations between the employers and their men rendered necessary by the depression in the trade and the low prices which have prevailed for all qualities of coal. Still the present movement is suggestive of more than appears at first view, and it is not saying too much that the policy being adopted by some of the coal owners to no small extent can be traced to the efforts made by the Colliers' Union some two years since to introduce their principles into various parts of Derbyshire. It will be recollect that towards the close of 1866 a great miners' demonstration was held at Chesterfield, for the purpose of forming a Miners' Union for Derbyshire and Nottingham. Singularly enough, it was determined to attack the position of the strongest company in the county of Derby, and the attempt was so far successful that the larger part of the miners who had long been in the service of Mr. BARROW, and, on his retirement, of the Staveley Company, left their work, and joined the Union. For some months they were supported by the funds of the South Yorkshire Association; but, through the determined opposition of Mr. C. MARKHAM, the managing director, who from the first informed the men that on no consideration whatever would Unionists be employed, the whole thing collapsed, after an expenditure of some thousands of pounds, and the entailing of great misery on the misguided men and their families. The next attempt was made in the Burton-on-Trent district, at Church Gresley, but a course similar to that at Staveley was pursued, and the men in June last gave up the contest, admitting their defeat. Before doing so, however, the leaders of the Unionists offered to submit the matters in dispute to arbitration, and Mr. MUNDELLA tried his hand in bringing about an agreement, but he was informed by the colliery proprietors that they thoroughly understood their own business, and could not allow the intervention of a third party who should be empowered to say in what way they should conduct their business, or upon what system their trade should be conducted. The colliery owners of South Yorkshire have not been blind to the above facts, for, having watched with a deep interest the progress of events in Derbyshire, and looking to the successful opposition to the Unionists there, they are now desirous of freeing themselves from the same influence. Indeed, it was only a few days since, whilst visiting the Denaby Main Colliery, that Mr. POPE, the managing partner, alluded significantly to the efforts of Mr. C. MARKHAM, at Staveley, and the success which attended them, and said that he intended adopting a similar course, and that the colliery for the future should be worked on the free labour principle. As to the advantages of such a system, we need only allude to the evidence given by Mr. MARKHAM before the Trades Commission, in which he stated that during the few years the Staveley Company had been in existence they had paid more than 12,000/ for school houses, workmen's hall, &c., and had recently given 2000/ towards forming an accidental assurance fund. "If," said Mr. MARKHAM, "a Union were established at our works, all those relations between ourselves and our men would entirely cease. We should break up our schools, and let the men do what they liked. At present we consider ourselves morally bound to do all we can for the benefit of the men and their children." The wages argument, however, has always been the main one relied upon by the Unionists for propagating their views; but upon that point Mr. MARKHAM says—"If you were to appoint a commission to enquire into the amount of wages paid, it would be found that the rate of wages in our district is higher than in any Union district in the kingdom." Such is the state of affairs at Staveley, and the coal masters of Yorkshire are desirous of emulating those of Derbyshire, and where peace, good wages, and social progress have long been felt and experienced from Staveley to Burton-on-Trent.

In Yorkshire matters are in a very different state. At Chapelton and Thorncleiff the collieries of Messrs. NEWTON, CHAMBERS, and Co., which are amongst the most extensive in Yorkshire, the ironworks and pits of the firm giving employment to nearly 5000 persons, are now closed. The firm a short time since determined to treat with their men individually, and, for that purpose, gave them the usual month's notice. The men, however, refused to be dealt with, and the result is that they are now out, and are likely to remain so, as Mr. CHAMBERS appears determined to carry out the conditions on which he proposed to conduct the business relations between himself and his workpeople. At Tinsley Park and the Manor Pits of Mr. HUNTSMAN there appears no likelihood of either side giving way. There are, therefore, now about 1600 men out of work, and maintained by the Union at a cost of 800/ per week. In addition to the collieries enumerated, it is stated that at several other collieries in the district a reduction of wages is contemplated, and which is rendered highly probable from the fact that the coal owners of South-West Lancashire have given notice of a 10 per cent. reduction. Should such turn out to be correct, there will be still further complications, as it is not at all likely that the men would submit to a reduction, so that in all probability a large number of those who have helped to support those on strike will themselves be thrown on the Union funds—a prospect certainly by no means cheering.

With regard to the Miners' Union, we are free to admit that it has done a great deal of good in supporting the widows and orphans of men killed in mines, and those unable to work. It appears that during the last two years and a-half it has contributed nearly 9000/ in liquidation of claims for the objects named, and paid as much as 10,000/ a-year for various benevolent purposes. On the other hand, it had spent many thousands of pounds in endeavouring to establish Unions in other districts, but only to be unsuccessful, and to leave behind a train of misery and want. The managers, Messrs. NORMANSELL and CASEY, are men of considerable administrative ability and energy, and about the only two in the colliery body who have given evidence of having the rare talent of leading and giving expression to their views in terse and forcible language. But for them the association, we believe, would have long since collapsed. We are, therefore, not surprised to find that, for the purpose of enlisting sympathy, and making a show of justice in the cause in which they are embarked, they have made an effort to refer all matters in dispute to arbitration. But what there is to be referred to Denaby and Chapelton we are unable to see. Mr. POPE merely says he will not employ men belonging to the Union, and Mr. CHAMBERS only asks to deal with his men singly. Still, the offer has been made, and a copy of the following circular has been addressed to all the colliery proprietors in the South Yorkshire district:—

The Council of the South Yorkshire Miners' Association, at their meeting on March 29, decided (on the grounds of their extensive experience in all kinds of disputes between capital and labour, and strengthened with the recommendation of the Royal Commission on Trades Unions) to use every endeavour to establish Courts of Conciliation and Arbitration in the mining district of South Yorkshire, with a view of preventing the disastrous consequences so often resulting from strikes and lock-outs; for this purpose I am instructed to forward a copy of the resolution passed on that subject for your consideration:—

"That this Council having had eleven years' experience in all mining questions affecting capital and labour in South Yorkshire, consequent upon the many and various strikes and lock-outs that have taken place during that period, are of opinion that every effort should be used by the Association to bring about Courts of Conciliation and Arbitration, with a view of settling the present disputes and all similar disputes that may occur in the future, and that circulars be issued, containing their resolutions, to the colliery proprietors, inviting their co-operation in the formation of such Courts as early as convenient."

Should this principle meet with your approbation, your influence and co-operation in the formation of such Courts will be highly appreciated and supported by the miners of this great and important district. An early reply, containing your views upon the matter, will oblige.

Now, we have no hesitation in asserting, notwithstanding all that has been said by Mr. MUNDELLA and others as to the advantages of Courts of Conciliation and Arbitration, that there is not the most remote chance of the South Yorkshire colliery owners aiding in introducing the system into the district. Indeed, we will give Mr.

NORMANSELL and Mr. CASEY credit for knowing that it would not be accepted. Coal mining is different to most other branches of industry. In it wages is the most important item, costing, in many instances, fully one-half, if not more, than the mineral realises in the market. Prof. LEONE LEVI estimates that the miners of England and Scotland earn 15,000,000 annually. Now, the actual value of all the minerals raised in the United Kingdom and Ireland for 1867 amounted to £4,169,797, of which the coal is calculated at £26,125,145. It will thus be seen what a very important part wages plays in the raising of coal, and it is, therefore, not very surprising, as that is the identical point upon which most disputes will centre, that the employers are not likely to delegate the power they have of making terms with their men to persons who have no interest whatever in the success of works in which a very large capital has been expended. As it is, the battle will have to be fought out by both parties, and there is no reason to fear but what right and justice will prevail over attempted dictation and coercion, and that the result will be alike advantageous to masters and men ensuring to both that liberty of action to which they are entitled, as well as securing the freedom of labour as an individual right.

A MINING SCHOOL FOR WALES.

We believe that our readers who are residents in the Principality will do us the justice to admit that the establishment of a Mining School in their midst is a subject which we have often advocated and urged with all the weight and power at our command. The importance of such an institution can scarcely be over-estimated—it is "a summation most devoutly to be wished for," and one which cannot fail to have a most material effect upon the future prosperity of the great mineral and commercial industries centred in their midst. Theoretically the subject has many warm, earnest, and zealous supporters, but practically no substantial exertions have been put forth; and it is to arouse, if possible, an active and unanimous effort that we once again appeal to the large colliery proprietors, iron merchants, and traders generally in a matter which so deeply affects their interests, and connected with which so much of the future wealth and prosperity of the Principality depends. Commercially speaking, Wales is yet in its infancy, and probably there is no county in the United Kingdom which is more rich in mineral products than Glamorganshire. It is certainly within the memory of the present generation that its commercial prosperity has been achieved. The great majority of the busy towns and active centres of population—"the hives," as such are not inappropriately termed—have been called into existence within the last 25 or 30 years. Merthyr and Aberdare, the seats of some of the largest iron works in the world, were altogether unknown some 30 years since. Cardiff and Swansea were little fishing villages some half-century back. The towns generally of South Wales have trebled, quadrupled, and quintupled their populations within the like period, and substantial enterprise and active commercial prosperity (despite the depression which has for some time past and still characterises the staple trades) are now to be witnessed on all sides. Notwithstanding, however, the rapid development of the mining industries, and the gigantic strides made in all which constitutes the greatness and prosperity of the Principality, there is, in our opinion, no reason to doubt the still greater expansion of trade, and the extension of its mineral wealth.

The coal fields of South Wales are, practically speaking, almost untouched, the iron works have every facility for almost unlimited expansion, the tin-plate works are being constantly enlarged, whilst almost every week fresh works, which cannot fail to have a most important commercial bearing upon the future of the Principality, are being opened in its midst. Wales is now unquestionably the *locale* to which the attention of the capitalists and manufacturers is being directed, for in no other place in the United Kingdom is there a greater amalgamation of favourable circumstances for the development of trade. Wales has had a vigorous youth, but, with proper culture and scientific treatment, still greater success will attend the exertions of its merchants and capitalists. But its trade and commerce—its mineral "life"—must be carefully watched and promoted; it must be tenderly and assiduously nursed. There is no more effectual way so to do than the establishment of a Mining School, and it is our solicitude for its vast mining and industrial pursuits which induces us once more to urge the importance of the establishment of such an institution.

Although Wales is, unquestionably, commercially prosperous, there can be no doubt, on the other hand, that the great majority of its mining and labouring population are woefully ignorant, and ignorant upon those very topics which are associated with their everyday life, and upon which their comfort and existence so much depend. The proprietors of large works have, with most commendable zeal and kind consideration, established schools in connection with their works, and the moral teaching of these schools will have a salutary effect upon the young and rising youth; but the education afforded thereto is not of that technical and practical character which is now so urgently needed. The "education" we now advocate is an altogether different thing. We urge an adult education, fitting a man to take the practical and scientific management of a large colliery—working it with the greatest safety and comfort to the colliers on the one part, and the pecuniary advantage of the proprietor on the other. We want an education which shall have a practical effect upon the ventilation and successful working of a colliery; the treatment of iron, steel, ores, and metallurgy generally, and other cognate matters, which is essential to be thoroughly understood by those whose avocations are connected with such works. In a word, we require an education which shall render competent men to undertake the successful management of those gigantic works which abound in the Principality, and to carry them out with even greater success than now characterise them. This education is rendered necessary by the greater competition which will be evoked by the scientific knowledge brought to bear, and this education can alone be achieved by means of a "Mining School."

Taking it for granted that nobody can doubt the immense advantages which have accrued from the establishment of similar institutions in other parts of the country, or the urgent necessity for such a school in the Principality, we venture to throw out a suggestion, which we believe if acted upon would soon bring about so desirable a result. Our suggestion is simply this—that the subject should be taken up by the South Wales Institute of Engineers. This society, which is of comparatively recent birth, numbers amongst its members some of the most eminent practical miners and engineers of the present day. It is in every respect a prosperous society; its members are active, intelligent, and zealous of all good works; its funds are in a satisfactory state; its papers have been of a most interesting and valuable character, exhibiting a practical knowledge of those many important subjects appertaining to the interests of the mining world generally. There is scarcely a firm of any commercial repute throughout the Principality which is not connected with the South Wales Institute of Engineers in some shape or other. There is, therefore, in this society a voucher for the accomplishment of great things. The grand object of both—the Institute on the one hand, and the Mining School on the other—would be the same, the practical education of the miner and engineer. We set before the Institute, therefore, an object worthy of their most serious and earnest consideration. Much good has already been accomplished by their efforts—here is a field of labour in which they would win for themselves credit and renown. If the members of the Institute would but act upon the suggestion which we have now thrown out success would assuredly follow. The leading firms in the Principality would be already enlisted in the welfare of the school, the general public would feel confidence in the success of the scheme, and would accord it their cordial approval and support. We hope that at the next meeting of the Institute the subject will be brought forward, and taken up with that warmth and unanimity which characterise all the proceedings of the society, and we feel assured that if such be done a "Mining School for Wales" will be no longer a *desideratum* earnestly wished for, but that it will be speedily established, and its practical benefits felt and admitted throughout the whole Principality.

ABERDARE AND MERTHYR STEAM COAL COMPANY (Limited).—Vice-Chancellor Sir R. Maitland has appointed Mr. Gibbons, of the firm of Hardy and Co., provisional liquidator of this company.

MINING, METALS, AND MINERALS—PATENT MATTERS.

BY MICHAEL HENRY.

Mr. HENRY BROOK WOODCOCK, of Low Moor, Bradford, has obtained a patent for an invention relating to a new manufacture of metal. This invention relates to an improvement in the manufacture of metal especially suited for axles, shafts, rails, tyres, and other purposes where hardness and malleability are required, so as to produce the same in a comparatively inexpensive, simple, easy, and rapid manner, resembling steel as regards density, with more or less the hardness and durability thereof, while retaining the tenacity and ductility of wrought-iron. In carrying out this invention steel bars are employed in the puddling-furnace during the process of puddling pig or refined metal into wrought-iron, such steel bars being put into small pieces, the quantity or proportion of the steel bars varying from about one-twelfth to one-third in weight of the mass to be mixed, according to the purpose and degree of hardness and malleability required. The mass is then boiled, puddled, and worked together by the puddler in the ordinary process of puddling. In the manufacture of this metal care must be taken that the pieces of steel are equally distributed and well mixed with the metal in the puddling furnace, so as to ensure the mass being as homogeneous as possible. The steel which is preferred for mixing with pig or refined metal in the puddling furnace is blistered steel, but other descriptions of steel, known commonly as cast-steel, may be used.

Mr. JAMES EVANS, of Wednesbury, has specified a patent for machinery for finishing and welding iron and steel tubes. This invention refers to the welding or finishing of iron or steel tubes, whether tapering or parallel, in their length, and it consists in employing for such purpose a double set, or two rows, of dies, arranged opposite to, and as counterparts of, each other, in slide-rests upon a bed, and they are capable of advancing and receding in horizontal or vertical direction to or from the centre of the machine, so as to compress or close around, and securely weld the tube, which is drawn in a heated state from the fire through the sets of welding or gripping tubes, upon an ordinary draw-bench. The advancing and retiring action of the dies may be obtained by means of lever-handles collared upon shafts or spindles, upon which are also collared connecting pieces attached to the transverse bars or slides of the die-holders or carriages; or such motion may be given by means of right and left handed screws, in connection with toothed-wheel gearing. One set or row of the dies may be stationary, whilst the other set or row is caused to move as required; or both sets may move simultaneously, or each pair of the sets of dies may be made to close upon the work in succession for the gradual completion of the tube, which is passed through the dies any required number of times, and by forming such dies or tools of a suitable contour the tubes may be drawn through them, so as to weld, and also produce a reeded, fluted, or other similar outline to the tube or section.

Mr. WM. C. HOLMES, of Gracechurch-street, has also obtained a patent for apparatus used in the manufacture of gas. Illuminating or heating gas in the course of its manufacture undergoes several processes of purification in separate apparatus. The object of this invention is to combine such apparatus into a compact and convenient form, so that economy of space and construction may be effected. The combined apparatus consists of a washer, scrubber, and condenser, and is formed into three distinct chambers; the lower one fitted with trays, and adapted as a washer; the upper and inner one, in which may be placed coke breeze, or other suitable material, fitted with grids or not as a scrubber, while the outer chamber serves as a condenser. Attached to the top is a funnel or vase-shaped vessel supplied with water, which constantly trickles down the interior of the upper and inner chambers from a horizontal pipe, having a number of small holes therein, and connected with the vase before mentioned. The water after percolating the coke breeze, or other material, and falling to the bottom of this chamber, descends to the lower chamber or washer, where it is intercepted by shallow trays, over which the water falls in succession. Openings are provided at different points to obtain access to and remove from the interior any obstruction that may arise.

COAL-CUTTING MACHINE.—An improved machine for cutting coal has been patented by MESSRS. GILLOTT and COPELEY, of Cheltenham, York, the leading feature in which appears to be the making of the cut outwards instead of inwards, as usual. The cutters commence to operate at the bottom of the groove. The inventors state that they propose to employ a horizontal revolving wheel or disc, having a series of cutters mounted on the periphery thereof, such cutters being made to cut outwards or from the bottom of the groove or undercut to the face of the working, whilst the body of the machine itself takes its bearing against the face in order to resist the strain of the cut. In some cases one or more guide-rails may be employed in addition. The whole is mounted on a suitable carriage, made sufficiently low to admit of the cutters getting well down to the bottom of the face, for the purpose of "holding in" the bottom when required. The cutter-wheel is rotated slowly but powerfully by the aid of spur, bevel, and worm gearing carried on the main framing. The readers of the Journal will be glad to learn the success attending the practical working of the machine.

MANUFACTURE OF ARTIFICIAL FUEL.—A machine, which it is claimed can agglomerate ordinary material, has been invented by MESSRS. SALAMON, FRETEUR, and TROQUIER, of Paris. It is based on the principle of pressure by wedges, applied in a rotary manner. It is composed of a framework supporting the compression pieces and the mechanism which sets them to work. These compressors are set on the circumference of two circular plates or tables. Each of these plates is provided with openings or cells, in which slide compression pistons, arranged so as to meet each other, two and two, in order to grasp the material to be agglomerated. The number of pistons varies according to the size and number of balls or cakes to be produced in one revolution of the plates, and proportionately to the circumference of these latter. Each piston head is hollowed hemispherically, so that when two meet they form a complete sphere. The spherical shape is here described, balls being most generally made; but it will be readily understood that, in order to make brick or other shaped cakes, it is only necessary to hollow the head of the piston differently. A rotary motion is given to the plates by toothed gearing. In this movement each of the openings passes under a hopper fed by means of a bucket-chain, with material to be agglomerated. The material penetrates into the openings, filling them completely, and in order to render the operation regular a compressing stamper, set to work by the machine, is fitted at the upper part of the hopper, the effect of this stamper being to force the material into the chambers. The pistons terminate at the bottom in the shape of a wedge or bevel, and slide horizontally on inclined rails placed on each side of the plates, and so arranged as to insensibly approach these latter. The difference existing between the obliquity of this slope from the point where it commences up to its termination forms the exact stroke or journey of the pistons. The rotary movement of the plates causing the pistons to pass over the slope, the result is that these latter approach each other at the same time, and meet and grasp and compress the material to be agglomerated in the cavity in their heads. This pressure having taken place the ball or the cake is made, and there only remains to free it from the pistons, which is done by means of a driver acting at the moment; the piston no longer pushed by the slope tends to resume its first position, this movement being facilitated by a spring. The piston is brought back to its primitive position by a second rail parallel to the first, against which it constantly keeps it. The ball, abandoned by the pistons, rolls on an inclined plane, from which it is removed for storage.

PRODUCING GAS FROM NAPHTHA.—The invention of MESSRS. W. TATLOCK, of Frankfort, and C. N. ABELSETH, of Philadelphia, U.S., relates to the production of gas from naphtha or other volatile liquids, and the nature of the invention consists in the peculiar construction of the gas generator, through which a continuous current of atmospheric air is forced, all of such air being brought into contact with the liquid with which the generator is charged, and thereby impregnated with the inflammable matter contained in the same. They construct a cylindrical tank of any desired size, and place the same on a stand or base. In the centre of this tank they place a perforated pipe or hollow shaft, which where it passes through the head or end of the said tank is provided with a stuffing-box, made in the usual way to allow the said shaft to revolve freely in the tank without leaking. Upon this shaft inside the tank they place a perforated cylinder, made less in diameter than the tank to leave a space around it, and between it and the tank outside of this cylinder they place another cylinder, which is also perforated, a slight space being left between the two cylinders; this space they fill with cotton, batting, or other suitable material. The perforations or holes in these cylinders are small—say, about one-eighth or one-quarter of an inch in diameter—and very numerous. On the shaft just outside of the stuffing-box is placed a pulley or wheel, by means of which the shaft is put in motion, and outside this pulley or wheel an air-pipe is attached to the said shaft; the latter is secured at its opposite end to a fan or blower, which may be made of any desired form and size, and driven in any suitable manner. In one end of the tank and near its lower side they place a pipe through which the contents of the tank can be drawn off at pleasure, and near to the centre of the same end of the tank is another pipe, by means of which they can ascertain when the proper amount of liquid is in the tank. The top of the tank is con-

nected with the gas-pipe leading to the burners, and another pipe is placed near one end of the tank, whereby the same is charged with liquid. If the tank is properly charged with the volatile liquid the perforated cylinder will be partly submerged in the same, and if they revolve the intervening cotton, batting, or other material will be continually saturated therewith. If the fan is put in motion a current of air will be forced through the air-pipe which leads from the said fan to the perforated pipe or hollow shaft, and through it into the inner perforated cylinder, through its perforations and the cotton, where it will be impregnated with the inflammable matter of the liquid with which the cotton is constantly saturated. The air and vapour combined will then pass through the perforations of the outer cylinder into the space between it and the tank, and thence into the gas-pipe leading to the burners.

COMPENSATION FOR INJURIES BY ACCIDENTS.

It is well known that in the present state of the law a workman cannot recover compensation from his employer for injuries resulting from accidents caused by the neglect of a fellow-workman, the principle recognised being that if the master supplies the necessary tools and facilities for carrying on his trade the workman (who is assumed to be competent for the work he is engaged to perform), by accepting his wages, accepts with them all risks of injury inseparable from the trade as then carried on. This principle having been confirmed by the House of Lords in the case of Mrs. Wilson v. Merry and Cunningham, the Miners' National Association have, during the past two months, been exerting themselves to bring about a change in the law, so as practically to make the employer responsible for every accident which may occur in connection with his trade, regardless of any consideration as to whether such accident has occurred through neglect of his own, or from the negligence or incompetence of any workman authorised to give directions to a fellow-workman. That such a law would be most unjust and obstructive is beyond question, since it would make masters responsible for every order or direction given to a workman, whether with or without his direct sanction; and would assume workmen to be entirely without skill and judgment in their trade, and would lead to endless litigation. In February last Mr. McDonald addressed a circular to the working classes of the United Kingdom, in which he says—

"For a considerable time past it has been considered that, legally, workmen injured were entitled to compensation from their employers. In the event of the death or injuries being caused by the neglect of the master or director of the workmen. The recent decision in the House of Lords, in the case of Mrs. Wilson v. Merry and Cunningham, completely dispels this idea. The decision is one that puts all working men in dangerous employments entirely at the mercy of reckless and ignorant managers, or those set apart to have care of the workers. The decision is one that will tell especially heavily upon all engaged in dangerous occupations. Feeling this, the 'Miners' National Association' have drawn up a Bill, with the view of having it introduced into Parliament, immediately if possible, and copies of which they herewith send. The association trusts that, in the interest of humanity and justice, you will, as a body, or as individuals, give them all the aid you can in trying to have employers made responsible for all who may govern, order, or direct workmen in the performance of their labour for the benefit of said employers only. The destruction of life, by the neglect of such parties is a prolific source of the pauperism that now threatens to overwhelm this country, and sap the foundation of our social system. The executive of the 'Miners' National Association' will be happy to receive any suggestions for the improvement of the proposed measure, which any of the organised bodies of workmen throughout the kingdom may deem of advantage toward the furtherance of the objects of the Bill."

The subjoined is the draft of the bill which has been prepared:

Whereas it is expedient to amend the rule of law by which workmen and servants are debarred from recovering damages from their masters for injuries suffered in certain cases; and whereas it is also expedient to extend the provisions of an Act passed in the ninth and tenth years of Her Majesty's reign, intituled "An Act for Compensating the Families of Persons Killed by Accidents," to the families of workmen and servants killed in certain cases, as hereinafter provided. Be it, therefore, enacted by the Queen's Most Excellent Majesty, by and with the advice and consent of the Lords Spiritual and Temporal, and Commons in this present Parliament assembled, and by the authority of the same, as follows:

I.—Whenever any workman or servant shall be injured by, or in consequence of, his master or employer neglecting to provide everything requisite to secure their safety when at their work, on the premises necessary to such work, such workman or servant shall be entitled to claim and recover in a Court of Law, damages for all such injuries. Further, whenever any master or employer shall appoint or sanction the appointment of a person or persons to direct, order, and govern any workman or servant in the performance of his or their work, and if through any neglect or wrong-doing on the part of the person or persons so appointed to direct the carrying on of the operations, any workman or servant under his or their orders should be injured, such workman or servant shall be entitled to claim and recover in a Court of Law damages from the master or employer as if said neglect or wrong-doing had been on the part of the master or employer himself; and in every case where the power so to direct, order, and govern is proved to have been given to such person or persons, the person or persons so empowered shall be held not to be a fellow-workman or fellow-servant of the workman or servant so injured, but be held as being the representative or representatives of the master or employer. Provided always that every such action shall be begun within 12 calendar months from the date of such injury or injuries being received.

II.—Whenever the death of any workman or servant shall be caused by a wrongful act, neglect, or default, which, if death had not ensued, would have entitled such workman or servant to recover damages under this Act, then and in every such case the person who would have been liable to an action for damages according to the provisions of the said recited Act.

III.—That this Act shall extend to Scotland and Ireland.

REPORT FROM SCOTLAND.

APRIL 14.—Buyers of Pig-Iron in this market on speculative account are alternately holding and realising, and are, consequently, moving prices up and down as they become purchasers or sellers. It is true that a pretty large business is passing in the article, and it is said that two or three of the best brands are over sold; still, the make is large, and speculation is ruling the market. Since the date of my last it has been nearly a close holiday, on account of periodical religious services; but, with the one or two open days in the interval, warrants have been done at 53s. and 53s. 1d. cash, and 53s. 1d. and 53s. 4d. a month, with shipments for the week reaching 12,930 tons, against 14,125 tons in the corresponding week of last year. The Middleborough iron imported keeps decreasing week by week, till the decrease for the year till date is close on 10,000 tons. To-day, in a flat market, iron was pressed for sale at 53s. 1d. down to 52s. 7d. cash, and 53s. 4d. to 52s. 10d. a month, at which prices about 15,000 tons changed hands, closing sellers 52s. 9d. cash, and 53s. a month, buyers 1d. less. No. 1, g.m.b., 53s. 3d.; No. 3, 50s. 3d.; Gartsherrie, 60s.; Coltness, 60s. 6d.; Glengarnock, 55s.; Langloan, 51s.—all No. 1. Manufactured iron is rather quiet for warehouse and shipment, although angle and plates are firm; and we understand the plates for the two new "Cunarders" have been this week taken at 3s. 6d. per ton over current rates, and will be of best iron. Bars, rods, and beam iron are meeting only with a limited enquiry, and there is a tendency to easier terms for these descriptions. As there are fully more iron sailing ships in course of construction on the Clyde than there are of steamers, marine castings are not in extensive demand; and while the large makers of pipes are fully employed, those on a smaller scale are scant of orders.

A very interesting paper was read on "The Jointing of Gas and Water Mains," at the meeting of the Association of Engineers of Glasgow last week, by Mr. John Page, C.E. He alluded to the enormous waste of gas through leakage, and which was admitted by an engineer of 20 years' standing in his evidence before a Committee of the House of Commons during the last month to have amounted in his experience to 45 per cent. He further expressed his regret that gas engineers should persist in using pipes of an inferior description, in the face of such an immense loss as they admit exists, and hoped they would take a lesson from the more perfect system of the hydraulic engineers. Mr. Page concluded by noticing the difficulty in making and maintaining good joints under any circumstances, particularly in curved pipes, where masonry or expensive entire castings and tie-rods were absolutely necessary, and exhibited drawings of a very simple system of jointing, which recommended itself by its great economy, and showed to the members that a joint on a curved pipe made under the system then before them could not move, as a joint tested under the most unfavourable circumstances stood a pressure of 600 lbs. to the square inch.

A report, put in circulation by a contemporary, that the Monkland Iron and Steel Company were about to resume operations in a section of their works which had been disused for about five years, is incorrect as stated. The plant in the portion of the work which has been in operation during the stoppage of the other portion being used up, the trustees are about to resume operations in the closed portion, to prevent the necessity of renewing the plant worked up, and which will bring into use a large mill at present out of employment. This, we believe, is the whole of the extension which is taking place at these works, which is simply a transference, not an extension, in any proper sense of the term.

The nominal state of prices in the Coal Market makes it difficult to say anything about it. Whenever it is known that there is a demand for a few hundred tons a general scramble ensues, and prices are not allowed to transpire. Nominally they run from 5s. 3d. to 7s. 6d. f.o.b. at the Broomielaw. Shipments for the week are set down at 27,910 tons, against 30,415 tons; and the fine weather, and want of heart in the manufacturing community, are reducing the con-

sumption to a minimum. The colliers are rather quiet, and are submitting to reductions which bring their wages to 12s, or 13s. a week. A number of miners have sailed to America, a number more are preparing, some of whom are leaving their wives chargeable to the parish, and may never more be heard of. This is a consideration which will require to be taken up by the proper authorities.

There are two Bills now before Parliament affecting the coal and iron masters of Scotland—the Parochial School (Scotland) Bill and the Road Bill. Into the claims of the Scotch coal and iron masters, on the first of these Bills, the Duke of Marlborough entered very fully on Monday night, when presenting their petition to the House of Lords. With regard to the Road Bill, as it contains provisions for taxing mineral royalties for the maintenance of the roads in the district in which the coal or ironstone pits are situated, although not a ton of these is conveyed otherwise than by rail, it is considered obnoxious, and must be seen by any legislator of intelligence to be a wrong. In reaching their destination, probably at Edinburgh or Glasgow, they have to be carted over the streets of these towns, but should collieries situated in Ayr or Lanarkshire be taxed to keep in repair the roads of towns or villages situated miles away? It is hoped both of these Bills will be so amended in Committee as to give satisfaction to the parties interested. We are sorry to report several failures in town this week, and the sequestration of an ironfounder, and a brassfounder and copper worker.

THE NORTH OF ENGLAND IRON AND COAL TRADES.

MIDDLESBOROUGH, APRIL 14.—The wages dispute in the Iron Trade is now in a fair way of being amicably and satisfactorily settled, at least for some time to come. Mr. Reuben Kettle, of Wolverhampton, the gentleman to whom was referred the arbitration of the question at the last meeting of the Board of Arbitration and Conciliation, visited this district on Monday, and after a meeting with the Standing Committee of the Board, and having the position of the matter in dispute laid before him, he fixed upon April 30 and May 1 to hear evidence on the merits of the question, so far as the different parties are concerned. The men ask for a general advance of wages equivalent to the amount of the last reduction, in 1867. In the main this will amount to 1s. per ton on puddling and 10 per cent. on millmen's wages, although particular cases, where the reduction made in 1867 was either more or less, will have to be specially dealt with.

The plans for the Middlesbrough Dock have been fully prepared, and the work will, it is expected, be rapidly pushed forward in the course of the ensuing summer. The extensive alterations and improvements, involving an outlay of nearly 100,000*l.*, will, of course, take a considerable time to complete; but their completion should greatly enhance the commercial importance of Middlesbrough. Unfortunately, at the present time the shipping trade at this port is at a very low ebb. Mr. Williams (the energetic manager for Bolekow, Vaughan, and Co.), in moving at the Middlesbrough Council meeting for a committee to consider the constitution of the Tees Conservancy Commission, and whether the interests of Middlesbrough were adequately represented at that board, stated that the shipping trade was languishing very much, and the export trade in coal had almost disappeared. The Tees Commission was fixed by Act of Parliament in 1852, just about the time when Mr. Vaughan had begun to take the ironstone from the Cleveland hills, and the constitution of the Commission had not been altered since that time, although within a radius of six miles of Middlesbrough was made nearly one-third of all the iron manufactured in Great Britain. Mr. Williams believes, and with good reason, that the more efficient representation of the port of Middlesbrough at the board which has the management of the Tees in its hands must result in an improvement of the shipping trade.

The Pig-Iron Trade has been quiet during the week. The principal makers are well sold forward, and with the advent of fine weather shipments will be more numerous, especially to the Continent. At the Cleveland iron market, on Tuesday, there was about the usual attendance. The list quotations for pig-iron were—No. 1, 49*s.*; No. 3, 46*s.*; No. 4, 45*s.*, 6*d.*, net cash. Makers are not disposed to book orders, except at full current rates. There is a tolerably brisk local demand for forge iron; the rail-mills continue well employed, and makers confidently look for an advance on present prices as the summer advances. As it is, they have enough orders on their books to ensure steady work for some months to come. The foundries of the district are fairly employed, although there is little improvement in prices for general castings. The shipbuilding yards on the Tees and Wear are in much better employ than for a long time past, but they do not as yet find enough to occupy them full time. Plates are in good demand, but the bar-iron trade remains flat.

Coldowners continue to complain of the dulness of trade. There have, however, been indications of improvement of late. Not only have the collieries in Durham and Northumberland been better off for orders, and, as a consequence, had their men more fully employed, but several new collieries are shortly to be opened out. An agent is at present in the North, buying large supplies for the Admiralty. The continued improvement in the iron trade, and the erection of additional iron works, are also circumstances which cannot fail to affect for the better this branch of trade in the North.

TRADE OF THE TYNE AND WEAR.

GATESHEAD, APRIL 15.—A large number of vessels have entered and left the Tyne this week, and the prospect for the shipping trade is steadily improving, while the rates for Cronstadt are advancing. For Alexandria the demand continues good for coke freights, &c., and 19*s.* per keel can be had. A large import and export trade has been done at the Tyne Dock, the principal imports having been timber, Esparto grass, &c., and the most important exports have included a quantity of rails from Consett. The coal export trade has not been very brisk. A large number of foreign ships are in the Tyne Dock and other parts of the Tyne, and the general prospect for the trade is certainly looking much better. As ships of any burden can now have access to the river the trade of the Tyne must naturally increase. If the project entertained be carried out, of which there is little doubt—that is, the establishment of a line of swift steamers to trade between the Tyne and New York—a large trade may be expected both in chemicals, general merchandise, and passengers. On the Wear business has been somewhat dull; so very sensitive is the coal trade that the fine weather has already affected freights to the London market, and the demand having slackened has caused rates to recede. At Hartlepool there have been large arrivals and sailings, cargoes of coal being the exports mainly, indeed almost exclusively. The shipbuilding trade continues to be the most prosperous in the North; the gradual extinction of sailing vessels is going on, and the substitution of large screw vessels causes a good demand for new ships, and the maintenance of the fleets in course of formation must cause a good permanent demand for ship plates, and also ultimately a good demand for the northern steam coal. The Government agent has made his first purchase of this steam-coal, and a considerable improvement has taken place in the trade, and there is a much better prospect. At Blyth a good business has been done, 12 vessels having sailed during the last week with coal.

The strike at the Thornley Collieries has proved a very serious affair. At one time not only the underground men but all the brakemen, firemen, &c., employed on surface were out, but those men wisely agreed to go in at the rates offered; they could not, indeed, get any better in the present state of the coal trade, and it would have been sheer folly to remain out under such circumstances. A number of men were brought up at Castle Eden, on Monday, charged with leaving their employment as miners at Thornley. It will scarcely be denied that the men have entered into an engagement to serve the owners for one year at the prices named in the bond or schedule, but it is also apparent that the real cause of the feeling which induced the strike is to be found in minor matters; in fact, the main cause is evidently the determination of Mr. Spencer, the head viewer, to enforce a particular clause in the bond relating to "laid out" coals, which had been suffered to fall into disuse, either partially or entirely. This question of "laid out" is always a sore one with miners, and great judgment is necessary on the part of managers in order to avoid a collision on the question. "Laid out" simply means a system of fines established for sending to bank mixed with the good coal stones,

foul coal, or slates. Of course, the meaning of a certain price per score, or per ton, is that only good coal shall be sent for such rates or prices, but, as this cannot literally be carried out to the letter a certain latitude is generally allowed, and the precise amount of margin to be allowed in this case is the real cause of dispute. It is rather probable that both parties have been somewhat hasty in the matter. A little calm consideration might have averted the injurious result which has taken place, and the very serious stoppage caused by a general strike, where such a large number of men are employed, and such extensive works carried on. At the conclusion of the proceedings, on Monday, Mr. Dixon, the solicitor for the men, stated that although no arrangement had been come to, if the Court were adjourned until Friday he had no doubt that an arrangement would be arrived at. Mr. Brignal, the solicitor for the owners of Thornley, fully agreed in this statement, and, after some admonitory remarks from the Chairman of the magistrates to the men, the Court adjourned until that day. [We are glad to learn that, mutual concessions having been made, there is now every probability of a satisfactory termination of this difficulty being arrived at.]

At the Northern Institute of Mining Engineers meeting, the discussion of Mr. Nelson's paper "On the Mechanical Firing of Steam-Boilers," was resumed, in the course of which a very interesting account was given by Mr. Bunning of a series of experiments, lately conducted on board the steamer Weardale, to ascertain the economical value of Hartley steam coal, and also whether it can be used on board steamers without producing smoke. Those experiments conclusively demonstrated that this coal can be burnt without producing smoke, and the best results obtained even by hand-stoking. Mr. Bunning succeeded in this mainly by reducing the length of the fire-bars down as low as 3 feet 6 inches, and in some cases the bars have been reduced as low as 3 ft., and this in addition to a peculiar mode of firing, mainly consisting of putting the coals in large quantity on the front of the fire, where they are first roasted, and afterwards pushed forwards, completely succeeded in the object aimed at. The coal being practically smokeless, and producing steam very quickly, also as compared with any other coal extremely economical. Many other gentlemen took part in the discussion, and the admission of air at the front and upper part of the fire, and also at the back of the fire, was strongly advocated by some. The various kinds of furnaces for land boilers were also passed in review, and their cost, both first and of maintenance, was given, so that the whole discussion must prove very valuable. Among the numerous inventions applied for the purpose of preventing smoke and economising fuel—that is, for land boilers—Juckes's apparatus continues to keep its place. It is, perhaps, the most remarkable and useful yet applied, although the first cost is considerable. It is, of course, self-feeding, and has been tried, but not as yet extensively, on board ship. The discussion of Mr. Stevenson's paper "On Lemiere's Ventilator" was then proceeded with. The ventilator, which has been thoroughly tested by Mr. Stevenson, is erected at the Page Bank Colliery, where it has superseded the furnace. As it is a shaft of slight depth, the application of Lemiere's ventilator has reduced the cost of fuel to a very great extent, and nearly, if not quite, doubled the quantity of air in circulation. An ample supply of air is thus secured, as well as the power to increase the quantity on any future emergency arising. The success of the Lemiere ventilator, as compared with the furnace in pits of slight depth, is undoubted and decisive. As compared with the Guibal ventilator, the matter is not so clear. Interesting particulars were given of the working of the Lemiere ventilator at Washington Colliery, by Mr. Willis, and of the Guibal ventilator at Pelton Colliery, by Mr. Morrison. The Lemiere, at Washington, appears to give even better results than the machine at Page Bank, but further particulars, the results of regular experiments, are to be given shortly by Mr. Willis. At the conclusion of the discussion the comparative merits of the two prominent machines just alluded to will, no doubt, be arrived at. At present it is clear that they are both admirably suited for the safe and efficient ventilation of collieries.

REPORT FROM NORTH AND SOUTH STAFFORDSHIRE.

APRIL 15.—No improvement can be reported in the state of the Iron Trade. Orders are chiefly of small amount, and partial employment is very general.

It was briefly stated last week that the enquiry before the Coroner as to the death of the man who lost his life by the flooding of the Nine Locks Colliery resulted in a verdict of "Accidental Death." The evidence adduced made it quite clear that the water had forced its way under the strong dam erected to keep it back in the adjoining Trough Pit. The coal in this latter pit had ignited, and the water was dammed up, it seemed, with a view to put out the fire, but this object had not been secured. The dam was of great strength, and had not, in fact, given way, the water getting underneath it by the softening of the strata. Mr. Baker, the Government Inspector, stated that the main pipe which allowed the water to flow through this dam was 4 in. in diameter, and the tap was of 10 in. area, and 18 in. above the water in the level. There was 1*1/2*-in. gas-pipe, with a small tap within 6 in. of the top of the dam. According to the evidence of Plant, one of the chartermasters, and Thompson, one of the doggies, both these taps were kept open constantly, and they never knew water to flow out of the upper pipe. Mr. Baker said that he estimated the water which had flowed into the mine at 622,784 cubic feet, which would cover 44 acres of ground 1 yard deep. The water reached a maximum height in the Nine Locks Pit of 43 ft. above the main top of the dam. The flow of water in the main gate-roads extended to 243 and 140 yards, respectively, from the shaft. According to the engineer, the average quantity of water into the Trough Pit would not be more than 50 gallons per minute, and, therefore, the taps in the dam would be ample for the passage of the water; in fact, a pipe 2 or 3 in. in diameter, with a few inches head of water, would pass that quantity easily. The daily accumulation of that quantity would take about eight weeks to reach the amount of the flood. As it was impossible to enter the Trough Pit, owing to the coal being on fire, and adopting the evidence that the taps had been kept open, it was still unknown whence the water came. Mr. Baker, however, was not satisfied on this point, and expressed his disapproval of a sealed dam like this in the water-way, as involving danger. Mr. John Yardley, however, and Mr. David Peacock, both mining engineers of great experience, especially the first, entirely approved of the erection of the dam, and were of opinion that there had been a sudden flow of water from higher hollows, and that the flood was not caused by the accumulation of water in the Trough Pit.

In connection with this accident, it may be remarked that a writer in a contemporary stated last week that the rescue of the miners cost Lord Dudley 25,000*l.*! This is a large amount to spend in a week in working pumps, &c. No doubt everything was done that could be, but 250*l.* would be probably an outside figure.

The question of the drainage of the Tipton basin remains as yet undetermined, so far as any permanent arrangements go. It is a pity there is no power to carry on drainage works, and assess the cost on the coal raised in the area benefited. No doubt there would be difficulty, but difficulties may be overcome, and whilst a perfectly fair assessment is not possible, a rough approximation would be fairer than for a number of people to have the advantage without payment and far less onerous than for the mines to be flooded, the end of which it is hard to estimate.

Mr. Rupert Kettle has consented to arbitrate on the question of wages in the North of England Iron Trade, and also in a dispute between masters and men in the building trades of Manchester. Every body wishes success to these attempts, to avoid riotous contests. John Thomas, 22 years of age, who was employed in "cogging" in a stall at the Moat Colliery, Tipton, lost his life by an explosion of gas on the 3d inst. A man serving him saved himself by dropping on the floor. At an inquest on Tuesday, Mr. Baker, the Mines Inspector, brought out that whilst there was plenty of air passing through the workings, there was an opening, or as it is called, "pot hole," over the stall in question, in which gas from time to time formed, and from which, no doubt, the accident occurred. Mr. Baker insisted that such places should be ventilated, but the chartermaster said it was impossible. It turned out that the doggy, in examining the pit, went down with a naked candle, and the chartermaster said he should dismiss him. The usual verdict was returned, but Mr. Baker said that

there having been another death in that colliery from a similar cause, he should bring it before the notice of the directors of the company.

REPORT FROM DERBYSHIRE AND YORKSHIRE.

APRIL 15.—There is very little alteration in the state of the Coal and Iron Trades of Derbyshire. A much larger tonnage of house coal is now being forwarded to London than since the commencement of the year, and the returns of the Clay Cross Company in particular show that the tonnage going from there has greatly increased during the past three or four weeks. The Midland Railway, now disengaged from the London and North-Western, and with a clear course to London, is rapidly assuming the lead of all the companies going into the metropolis with minerals. In South Yorkshire the miners are still in a high state of fermentation, and matters are fast assuming an aspect which cannot but lead to a serious breach of the peace. At Denaby the men who are out do all they can to annoy those who are at work, and, as might be expected, a rather serious collision took place at the Sparrow barracks, where a number of the men recently engaged are located. A number of windows were smashed, and the police were ineffectual to stop the work of destruction. Mr. Pope, the managing partner, states that on no account can he recognise the men who were lately in the service of the company as having any claim whatever on him. At Thorncleiff and Chapelton the pits are all but closed, and Messrs. Newton, Chambers, and Co., have expressed their determination not to give way, and that those who seek for employment must apply individually, as the firm will not be dictated by any body of men. Nearly 1000 men at those collieries are out, and altogether there are now 1600 men receiving pay from the Union, at a cost of nearly 1600*l.* per week.

At the inquest upon the sufferers by the explosion at the High Brooks Colliery, Ashton-in-Makerfield, nothing important has been elicited, although both Mr. Higson, the Government Inspector, and Mr. Pickard, the miners' agent, have used every exertion to bring out the facts. It is the opinion of James Whittle, the head fireman, that there was no explosion of fire-damp, the calamity being due to an explosion of several cans of gunpowder (12 lbs. or 14 lbs. in all), which were ignited by the blowing out of a shot which inflamed the coal dust. This view is confirmed by some witnesses, and denied by others.

Mr. WILLIAM SAUNDERS, who has been for upwards of 22 years the confidential assistant of Mr. J. T. Woodhouse, C.E. and M.E., of Derby, has commenced business in Derby on his own account, and is prepared to undertake any of the business usually performed by an actuary, accountant, land and estate agent, auctioneer or valuer, or commission and general agent. Those who have had dealings with Mr. Saunders, as the representative of Mr. Woodhouse, will need no assurance that any business entrusted to him will be promptly and thoroughly attended to, whilst to others it will suffice to know that it is at Mr. Woodhouse's suggestion that he has commenced business for himself, and that he is permitted to use Mr. Woodhouse's name whenever reference is required.

REPORT FROM MONMOUTH AND SOUTH WALES.

APRIL 15.—The rail mills during the quarter just ended have been kept pretty regularly working, and the prospects of this important branch of the trade are now as good as they were at the commencement of the year. At the close of last year there was a considerable increase in the demand, which has afforded employment to the French, Belgian, and Prussian works for some time, and this will deter them from competing with the makers in this and other districts for the heavy contracts for rails for Russia and the United States about to be given out. The Quarterly Meeting of Ironmasters passed off in what was considered a satisfactory manner, and there is every probability of better prices being obtained before the expiration of the present quarter. The trade during the past week has assumed something like its vitality previous to the Quarterly Meeting, and strong hopes are entertained of its continuing to manifest the same liveliness for some months to come. A large amount of business continues to be transacted with American buyers, and last month no less than 26,783 tons were sent to the American markets, of which New York alone took 15,363 tons, and should the weather continue favourable, and no scarcity of ships arise, the exports during the present month will, probably, be much larger, as some thousands of tons are now awaiting shipment at the local ports. Russian advices continue favourable as to future requirements, and the exports to the Muscovite empire this season, early as it is, already amount to nearly 5000 tons, and several vessels and steamers are this week expected to arrive at the local ports to load iron for the Russian markets. There is an increase in enquiries from India, and an addition to the demand from that part of the British empire is now looked forward to before many weeks have elapsed. The continental demand has also improved, and as there appears to be in several of the European countries a general awakening as to the importance of railway communication, the quantity of iron that will be required to carry out the contemplated extensions of the railway systems will be something prodigious; and, as the foreign houses are full of engagements, it is quite evident the great bulk will have to be supplied by makers in this and other districts in the United Kingdom. The pig-iron trade is more active than it has been for several weeks past, and prices are much firmer. Tin-plates sell steadily at the advanced prices determined upon at the Quarterly Meeting, and there is a prospect of a further rise.

The Steam Coal Trade has somewhat improved, the demand from some of the foreign markets having somewhat increased. The exports, on the whole, were last month above the average, and it is very probable if merchants and shippers had experienced no difficulty in obtaining vessels of suitable tonnage for the more distant ports there would have been a much larger increase. Trade with South America has somewhat increased, and the shipments to the mail packet stations are larger than they have been for some weeks past. Large quantities continue to be sent to the French markets, and, as has been the case for three or four months past, French buyers continue the best customers for South Wales steam coal. The improvement which lately set in the house coal trade has been somewhat checked by the hot weather, and at several of the collieries the hands are not employed more than half-time.

The enquiry into the death of William Lewis, who was killed by an explosion of gas in the Stable Pit, at Nant-y-Glo, belonging to Messrs. J. and C. Bailey, has been brought to a close. Mr. Lionel Brough informed Mr. Brewer, the Coroner, and the jury that the ventilation was good, at the same time a little gas was there, which by a little care could be taken away. He thought the men ought to be sent up the pit, and not allowed to stay about the heading when gas accumulated, as was the case while the door was put up. He censured the parties for using naked candles instead of safety-lamps while the operation took place. The jury returned a verdict of "Accidental Death," censuring the parties for the bungling way of putting the door up while the men were in the pit, and also for not using safety-lamps.

Considerable surprise was caused in the district on Monday by the announcement of the suspension of Messrs. Hallam and Madge, tin-plate manufacturers, Morriston, Swansea. The amount of the liabilities is not yet authoritatively announced, but it is expected they will reach from 70,000*l.* to 80,000*l.* The firm has for many years held a high position in the tin-plate trade, and they have carried on large and extensive works at Morriston, and should operations at the works be suspended a large number of workmen will be thrown out of employment. Keen competition in the tin-plate trade, consequent upon the rapid extension of new works, is said to be the chief cause of the suspension. The Glamorganshire Banking Company are creditors for a considerable amount, but it is said they are fully secured.

Messrs. John Parry and Richard Morris, of the Cambrian Slate Works, Llanberis, North Wales, have obtained a patent for an invention of "improvements in saws for cutting slate, stone, iron or other metal or material."

The arrivals at Swansea include—the Iris, from Frederickston, with a cargo of timber for M. Moxham and Co.; Mary Jane, from Bilbao, with 210 tons of iron ore, for W. H. Thomas and Co.; Lynwood, from Bilbao, with 278 tons of iron ore, for W. H. Thomas and Co.; Acacia, from Huelva, with 216 tons of pyrites to order; Mary Ann, from St. Malo, with 100 tons of zinc ore, for Dillwyn and Co.; Nimble, from Carloforte, with 519 tons of zinc ore, for H. Bath and Son; Victoria, from Ronen, with 104 tons of plaster or Paris, for Philip Rogers; Maria Lamb, from Bilbao, with 318 tons of iron ore, for W. H. Tacker; Ann and Mary, from Marseilles, with 225 tons of copper ore, for W. H. Thomas and Co.; Trois Soeurs, from Santander, with 165 tons of iron ore to order; Louie Ann, from Lisbon, with 165 tons of phosphate to order; Etienne Leonidas, from Santander, with 168 tons of iron ore, for Richards and Power; Liberte, from Bilbao, with 180 tons of iron ore to order; Roundshot, from Aveiro, with 210 tons of copper ore, for Richardson and Co.; Earl of Shaftesbury, from Malpas, with 454 boxes, for H. Bath and Son; Rose de Mal, from Bilbao, with 160 tons of iron ore, for W. H. Thomas and Co.; Vigilante, from Santander, with 145 tons of iron ore to order.

MINING IN THE FOREST OF DEAN.—Messrs. FULLER, HORSEY, SON, and CO., submitted for sale by public auction, at the Mart, on

April 7, the Bailey Hill Level Collieries and Brick Works, with the fixed machinery and valuable patent right for the manufacture of an improved emery-powder, for the production of which there is an almost inexhaustible deposit of clay on the property, and all the necessary machinery to keep the market supplied at a considerably lower cost than that of foreign emery, which it fully equals, if not excels. The collieries are easily and economically worked, the coal hard and of a good quality, roof good, no fire-damp, and railway communication by means of the Severn and Wye Railway, to the South Wales Railway, or to the shipping port at Lydney. The brick and tile works are held under the Crown, at a very moderate royalty, are in full work, and contracts can at once be taken for large quantities of bricks. No bid being made, the properties were withdrawn.

FUEL.—Certain improvements in the manufacture of artificial fuel have been patented by Mr. W. H. CRISPIN, of Stratford, Essex, the invention being applicable to the treatment of anthracite, as well as bituminous coal of any description, and also to any combination of anthracite and bituminous coal. The fuel is formed by taking about one ton of coal in a pulverised state and adding thereto about 6 or 7 per cent, by weight of stearine pitch, cotton-seed oil pitch, or other analogous vegetable pitch, the same having been previously dissolved in about an equal weight of creosote, or "dead" or "heavy" oil resulting from the distillation of coal tar, or in any hydrocarbon fluid or fluids possessing similar solvent powers. The coal and pitch having been thus combined, about 3 per cent, by weight of lime and 3 per cent, of chloride of sodium (common salt) are added. By preference, however, the coal, lime, and salt are mixed together in a dry state, and then the dissolved pitch is added. In some cases it will be found that the quality of the fuel is improved by adding thereto a small quantity of common salt in the state of brine just before the introduction of the dissolved pitch. These proportions must be considered as approximate only, as they may be in some degree varied according to the nature of the coal employed and the character which it is desired the fuel shall possess. The materials thus combined as before mentioned are submitted to the requisite pressure, and divided into blocks of the desired size, by means of any machinery or appliances adapted to the purpose. An important advantage claimed for the artificial fuel manufactured in accordance with this invention is that the pitch and the hydrocarbon fluid or fluids in which it has been dissolved not only agglomerate and cause cohesion between the particles of coal with which they are combined, but also from their combustible nature greatly increase the heating qualities of the resulting fuel.

ROCK-BOARING MACHINES.—Amongst the many subjects which for the last few years have attracted the attention of engineers, and the mining public generally, has been that involving the question of the application of machinery for superseding manual labour in the underground exploratory works of mining. The fact of its practicability has, it is considered, been fully proved, but the question how far such machinery can be made use of economically, with commercially profitable results, is one on which with the insufficient data hitherto furnished an opinion cannot be given. That it is one of those questions which may naturally be expected to be some day satisfactorily solved is not doubted. For such has been the engineering acumen and amount of capital already devoted to it, that the general principles upon which such a machine should be constructed are regarded as tolerably well settled. Details, therefore, should occupy the present attention of engineers. And here, as might be expected, in the usual course of things, the enterprising pioneers of this work, in themselves learning what the necessities of the case would require, and the best mode of meeting these wants, must simultaneously excite and draw the minds of those to the subject who, either from natural inclinations, the force of circumstances, or the combination of both causes, are induced to enter the lists, with the hope that whilst they may establish and increase their professional reputation, they may also reap some of the more solid advantages, which would be insured by a ready appreciation by the public of a thorough good rock boring-machine. Mr. HENRY BRENTON, a mining engineer, after having some six years' practical experience with these machines, has designed one which he considers will fully answer all the desired purposes; and in an advertisement in this day's Journal he expresses his willingness to entertain proposals which, without risk to the capitalist, will give him an opportunity of realising handsome profits for a comparatively small amount to be invested.

SOCIETY OF ENGINEERS.—On Monday evening the paper read by Mr. F. W. Hartley, on "The Methods Employed in the Determination of the Commercial Value and Purity of Coal Gas," will be for discussion.

VELOCIPEDES.—At a meeting of the Inventors' Institute, held at St. Martin's-place, Trafalgar-square, on Thursday evening (Mr. H. C. Coulthard, C.E., in the chair), a paper on Velocipedes was read, by Mr. C. B. King, C.E. The paper embraced a history of the several inventions which had from time to time been brought forward for road locomotion, by the application of the power of the human body; but the mechanical and engineering view of the question was not touched upon. He commenced by referring to the increasing public interest in the velocipede movement in England, as well as in America and France; and having given to Niepce the credit of the invention of the bicycle half a century ago, he mentioned the names of various improvements down to the present time. One of the machines weighed half a ton, and would carry twelve persons; in another the break, one of the most valuable features of the modern velocipede, was introduced. In order to bring them into general use, he thought manufacturers should pay attention to springs, proportion, and finish. The exercise might be called walking made easy, with the advantage of taking ten feet at a stride in place of two. He attached no importance to the supposed danger to pedestrians, inasmuch as, with ordinary skill, a velocipede can stop more suddenly than he could pull up a horse. In the discussion which followed the reading of the paper very conflicting statements were made, the only conclusion to be drawn from which was that expert velocipedists can maintain on the bicycle a speed of nearly seven miles per hour for some hours. As to the comfort and advantage of riding the velocipede on any but perfectly smooth roads, and as to the practicability of ascending hills, except by pulling or pushing the velocipede, the manufacturers, several of whom were present, were not at all unanimous. As the rope by which Blondin crossed the Niagara was probably the cheapest foot-bridge of equal strength, span, and altitude ever constructed, so the velocipede, if the opinion of certain enthusiastic velocipedists be adopted, is a form of vehicle by which the traveller may annihilate time and space, and perform an amount of work which proves that all accepted principles of mechanical science are absurd. The sole drawbacks are that it requires proof that the foot-bridge mentioned can be used by ordinary passengers, and that the velocipede gives any increased power of locomotion without corresponding increase of exhaustion. It was suggested that inventors should endeavour to provide velocipedes suitable for ladies and children, as well as cheaper vehicles on which working men could go to their employment, as some do in Paris. It was stated, however, that velocipedes are not fitted for London streets, and regret was expressed at their exclusion from the parks. Mr. Véloge said he had done the 90 miles between Paris and Rouen on a bicycle in one day. A mile had been done on a good road in two minutes and four seconds, but the keeping up of so high a rate of speed was altogether exceptional.

LONDON GENERAL OMNIBUS COMPANY.—The traffic receipts for the week ending April 11 was 10,351*l.* 17*s.* 10*d.*

STAFFORDSHIRE WHEEL AND AXLE COMPANY (LIMITED).
MANUFACTURERS OF RAILWAY CARRIAGE, WAGON, and CONTRACTORS' WHEELS AND AXLES, and other IRONWORK used in the CONSTRUCTION of RAILWAY ROLLING STOCK.
OFFICES AND WORKS,
HEATH STREET SOUTH, SPRING HILL, BIRMINGHAM.
LONDON OFFICE,—118, CANNON STREET, E.C.

RAILWAY CARRIAGE COMPANY (LIMITED).
ESTABLISHED 1847.
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MANUFACTURERS OF RAILWAY CARRIAGES AND WAGONS, and EVERY DESCRIPTION OF IRONWORK.
Passenger carriages and wagons built, either for cash or for payment over a period of years.

RAILWAY WAGONS FOR HIRE.
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LONDON OFFICES,—6, STOREY'S GATE, GREAT GEORGE STREET, WESTMINSTER.

THE BIRMINGHAM WAGON COMPANY (LIMITED).
MANUFACTURE RAILWAY WAGONS of EVERY DESCRIPTION, for HIRE and SALE, by immediate or deferred payments. They have also wagons for hire capable of carrying 6, 8, and 10 tons, part of which are constructed specially for shipping purposes. Wagons in working order maintained by contract. EDMUND FOWLER, Sec.

WAGON WORKS,—SMETHWICK, BIRMINGHAM.
** Loans received on Debenture; particulars on application.

WILLIAMS'S PERRAN FOUNDRY COMPANY, PERRANWORTHAL, CORNWALL.
MANUFACTURERS of STEAM PUMPING and EVERY OTHER KIND of ENGINES, together with BOILERS, PUMP CASTINGS, and MINING TOOLS of every description, of the very best quality. Estimates given for the supply of any amount of machinery.

London Agent.—Mr. EDWARD COOKE, 76, Old Broad-street, London, E.C.

COLCHARTON MINE, NEAR TAVISTOCK.
MESSRS. WARD AND CHOWEN (Auctioneers) beg to announce that the SALE of the MATERIALS, &c., on the COLCHARTON MINE, advertised in the MINING JOURNAL of April 10 for Wednesday next, WILL NOT TAKE PLACE.
Dated Upton, Milton Abbot, Devon, April 10, 1869.

VALUABLE MINE SHARES FOR SALE.
M. R. JOHN PERMEWAN WILL SELL, BY AUCTION, at the Western Hotel, Penzance, on Thursday, the 22d day of April inst., at Three o'clock in the afternoon (subject to conditions to be then produced), EIGHT (180th) SHARES of all that most valuable and productive TIN MINE, called

W H E A L O W L E S S,
Situate in the parish of ST. JUST, near PENZANCE, CORNWALL, now in full and vigorous working, with substantial buildings, and machinery of the most effectual kind.

The Mine is in all respects in excellent order, having been carried on for very many years under able and judicious management.

Profits have been made to the amount of nearly £30,000, and a dividend of Fifty Guineas per 80th share was declared on the 19th of February last; and, with the present position and hopeful prospects of the tin market, the large quantity of reserves on the Mine, and the extensive district of tin ground already opened and in view, no doubt large dividends will be paid for a considerable time.

The property is offered for sale in consequence of being trust estate, and each share will form a separate lot; and to persons of capital, desiring a legitimate and permanent mining investment, the present sale offers a most inviting opportunity.

Further particulars will be kindly furnished by Mr. RICHARD BOYNS, the Purser, at the Mine; or may be obtained on application at the offices of Mr. TRYTHALL, Solicitor, Penzance.—Dated April 7, 1869.

MINING SHARES.

M. R. BRANCH WILL SELL, BY AUCTION, on Monday, the 19th day of May next, at Four for half-past Four o'clock in the afternoon precisely, at the Queen Railway Hotel, Chester, in such Lot or Lots as shall then be determined on, pursuant to an Order of the Court of Chancery of the County Palatine of Lancaster, TWO HUNDRED AND THIRTY-EIGHT SHARES in the WELL-KNOWN and OLD-ESTABLISHED MINING COMPANY called

THE TALARGOCH MINING COMPANY (LIMITED).

This company's mine is situated at Dyerth, near Rhyl. The company is a very flourishing concern, and has for many years paid very large dividends.

For further particulars apply to the secretary of the company, Mr. WILLIAM SMITH, Dyerth, near Rhyl; to Messrs. PALGRAVE, REYNOLDS, and LYON, solicitors, 3, Lord-street, Liverpool; or to Messrs. SIMPSON and NORTH, solicitors, 1, Rumford-street, Liverpool.

PAR CONSOLS MINE.

F O R S A L E, B Y P R I V A T E C O N T R A C T, at PAR CONSOLS MINE:—

ONE 80 ft. cylinder PUMPING ENGINE, with THREE BOILERS, and balance bob., &c., complete.

ONE 72 in. cylinder PUMPING ENGINE (Bull), with TWO BOILERS, &c.

ONE 24 in. cylinder WINDING ENGINE, with BOILER, cage, &c.

ONE 26 in. ditto ditto, with TWO BOILERS, &c.

ONE 24 in. ditto ditto, with BOILER, cage, and steam capstan attached.

ONE 20 in. ditto ditto, with horizontal BOILERS, &c.

ONE 30 in. ditto ditto, with CRUSHER attached.

ONE 18 in. ditto ditto.

ONE 36 in. and 22 in. cylinder combined STAMPS ENGINE, with THREE BOILERS, iron axles, for 56 heads stamps, five tappers to the round.

Two 14 ft. CALCINERS.

A large quantity of first-rate pumps, from 6 in. to 20 in., with windbores, matchings, H pieces, &c.; 14 plunger poles, from 7 in. to 20 in., with stuffing boxes and glands to fit; hammered and common iron rod plates, rod pins, staples and glands, rail iron and saddles, a quantity of pitch pine and other main rods (from 10 in. to 15 in.); 2 capstans and three shears, capstan rope, chains, and a variety of other articles; several wood sheds, tin racks, &c.

For viewing the same, apply to the agents.

Further particulars may be had of Mr. WM. POLKINGHORNE, the purser, or of WM. WEST, Esq., C.E., Tredegar House, St. Blazey.

Par Consols Mine, Par Station, Cornwall.

RARE OPPORTUNITY FOR INVESTMENT IN CORNISH MINING.

T O B E S O L D, B Y P R I V A T E C O N T R A C T, to a party or company who will work the Mine efficiently, the WHOLE of the PLANT, MACHINERY, &c., on

C A R N G A L V E R M I N E,

Situate in the parishes of MORVAH and ZENNOR, and referred to in the Government Survey Map as the Zennor and Morvah Mines, and which may be set to work in a very few days, and at a very small cost.

The failing health of the lessee, purser, manager, and principal shareholder is the sole reason for selling.

The PLANT on the Mine consist of a superior 30 in. double-acting STEAM-ENGINE, with two bobs, for pumping and drawing, of ample power for considerably increased development of the Mine; 130 fms. skip road; two cast-steel skips; 150 fms. chain; tram wagons, tram road, with the necessary pitwork, &c.

The principal shaft is 130 fms., and there is a deep adit of 70 fms. from the surface, which makes the water charges very light.

There is also on the Mine an account-house, and offices of nine rooms, stable, and carriage shed, smithy, and other convenient outbuildings.

On the set there are likewise powerful water stamps of 34 heads, burning-house, Borslare's patent buddles, frames, &c., capable of dressing a considerable quantity of tin.

For terms, and further particulars, apply to Mr. JOHN COULSON, Purser and Manager, 38, Chapel-street, Penzance.

ENDON (OR HENDON) MINING COMPANY (LIMITED).

E N D O N M I N I N G G R O U N D is situated in the parish of EDMONDSTON, in the county of DURHAM. The company which is engaged in this undertaking is desirous of INCREASING ITS CAPITAL beyond the £1000 already invested, being confident that they will find good and profitable Mines. They wish, therefore, to DISPOSE OF A LIMITED NUMBER OF SHARES, as the present shareholders are unable to work the Mine to advantage. TWO GOOD VEINS are cut in the top beds,—one the well-known Middlehope vein; the other one of the White Heaps veins; whilst several other good veins traverse this plot of mining ground.

Reference can be made to Mr. JOHN ROBINSON, M.E., Bushy Flat, Stanhope, who is assistant to E. F. BOYD, Esq. (Mining Engineer to the Dean and Chapter of Durham). Both gentlemen are well known in the county of Durham for their competence and honesty.

JOHN ROBINSON.

Consett, March 31, 1869.

VALUABLE GRANITE QUARRY IN EAST CORNWALL.

T O B E S O L D, B Y P R I V A T E C O N T R A C T, the LEASE of a QUARRY, producing some of the finest quality granite in the county; together with the valuable PLANT, MACHINERY, &c., thereto belonging, and the COTTAGES erected on the set.

The property is situated in close proximity to the celebrated Cheesewring; is held under long lease on favourable terms; and possesses unusual facilities for producing blocks of the largest size and finest grain, in almost unlimited quantity. The stone, being of superior character, is readily marketable, and has been extensively used in some of the principal National undertakings.

A large sum has been expended in developing the resources of the quarry, from which immediate remunerative returns may be obtained.

For viewing the above, apply to the Foreman, at the West Cheesewring Granite Works; and for further particulars, at the offices of Mr. TREGO, Morning News Chambers, George-street, Plymouth.

A FESTINIOG SLATE QUARRY ON SALE.

T H E B W L C H - Y - S L A T E Q U A R R Y, situated in the parish of FESTINIOG, and in the centre of that well-known slate district, is NOW ON SALE, BY PRIVATE TREATY, owing to the death of the late proprietor.

The quarry produces slates of first-class quality, of which there is apparently an inexhaustible supply. It is provided with the requisite plant for being properly and profitably worked, and has already been worked to a profit, and is parted with solely owing to the death of the proprietor. It is situated close to the Portmadoc and Festiniog Railway.

For particulars, apply to Mrs. WILLIAMS, Bannaraw, Daffyfryn, Carnarvon.

NORTH WALES.

GREEN AND BLUE SLATE QUARRY.—THE WHOLE or

ONE HALF of one of the FINEST QUARRIES in WALES FOR SALE. Within 150 yards of a railway station, on a main line of railway, and within 1½ miles of a shipping port, accessible by the same line.

For price and particulars apply to Mr. THOMAS HARVEY, St. Clement's House, St. Clement's-lane, London.

March 29, 1869.

F O R S A L E.—THE UNDERMENTIONED ENGINES AND

WATER WHEELS:—

ONE 60 in. cylinder ENGINE, 10 ft. stroke in cylinder, and 9 ft. in shaft; with TWO Cornish BOILERS, 10 tons each.

ONE 56 in. cylinder PUMPING ENGINE, 9½ ft. stroke, equal beam; with TWO Cornish BOILERS.

ONE 50 in. cylinder PUMPING ENGINE; with ONE BOILER.

ONE 48 in. cylinder (beam) double-acting ENGINE, with pumping gear attached, 6 ft. stroke; with ONE 10 ton BOILER.

ONE 25 in. cylinder (beam) double-acting ENGINE, 6 ft. stroke; with ONE 10 ton BOILER.

ONE 12 in. cylinder rotary STEAM ENGINE, with ONE 6 ton BOILER.

The whole of the above engines are in excellent condition, some being nearly new.

WATER WHEELS.

ONE WATER WHEEL, 40 ft. diameter, and 8 ft. abreast.

ONE ditto 60 ft. ditto 3½ ft. abreast.

ONE ditto 30 ft. ditto 3½ ft. abreast.

The above wheels have cast-iron rings, sockets, and axles.

RAILWAY WAGON WORKS, BARNSLEY.
 MESSRS. G. W. AND T. CRAIK
 ARE PREPARED TO
 SUPPLY COAL AND COKE WAGONS
 OF EVERY DESCRIPTION,
 Either for cash, or by deferred payments through wagon-leasing companies.
 WAGONS PROMPTLY REPAIRED.

TANK LOCOMOTIVES,
 FOR SALE OR HIRE.
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 LOUGHBOROUGH.

THE BEVERLEY IRON AND WAGON COMPANY (LIMITED),
 MANUFACTURERS OF RAILWAY WAGONS, WHEELS
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IMPROVED APPLICATION OF WATER POWER.

THE TURBINE.
 MAC ADAM BROTHERS AND CO., ENGINEERS, SOHO
 FOUNDRY, BELFAST, after twenty years of experience, have brought
 their IMPROVED TURBINE to great perfection.
 It is applicable to all practicable heights of fall, giving much greater power
 from the water than any other kind of water-wheel.
 On low falls it has the great advantage of not being impeded by floods or
 backwater.
 It is particularly well adapted for situations where the quantity of water is
 variable, and where all other wheels fail.
 Its motion is extremely regular, and, when desired, a governor can be applied
 effectively.
 This wheel is at work in a great many places, to which reference will be given.

IN THE TOWER FOUNDRY IS THE TYNE DEPOT FOR MACHINERY of every description for WOOD and IRONSTONE, CORN-CRUSHING, and PUG MILLS. Also, AGRICULTURAL IMPLEMENTS.
 PROPRIETOR—G. HARLE, JUN.,
 No. 49, MAPLE STREET, NEWCASTLE.
 PURCHASERS OF PORTABLE ENGINES and STEAM CRANES will do well to ask G. HARLE's price for the same.

DYNAMITE, OR NOBEL'S PATENT SAFETY BLASTING POWDER.

DYNAMITE is the SAFEST and most POWERFUL BLASTING COMPOUND in general use. Accidents are almost impossible, as it is only exploded by a strong percussion cap. It will not explode from a spark or concussion. If set fire to, it burns quietly and harmlessly away, without smoke or any explosion. Prepared in cartridges for mines and underground workings. Sold by—

WEBB AND CO., CARNARVON,
 Sole consignees in England from the Patentee and Manufacturer.

GENERAL MINING COMPANY FOR IRELAND (LIMITED).

MAKERS OF ZINC OXIDE.
 OFFICES, 29, WESTMORELAND STREET, DUBLIN.
 MINES AND WORKS, SILVERMINES, COUNTY TIPPERARY.

The Directors beg to intimate to PAINT and COLOUR MAKERS, INDIA RUBBER MANUFACTURERS, SHIPPERS, and the TRADE generally, that they have COMPLETED THE ERECTION OF WORKS for the MANUFACTURE of ZINC OXIDE, and that they are now producing ZINC WHITE of GREAT EXCELLENCE and PURITY.

Samples and terms shall be forwarded on application.
 H. C. FOWLER, Secretary.
 29, Westmoreland-street, Dublin, December 10, 1868.

MILNER'S STRONG HOLDFAST AND FIRE-RESISTING SAFES,
 CHESTS, DOORS, AND STRONG ROOMS,
 With the progressive and recent improvements effected after half a century's experience, effectually guard against FIRE and BURGLARS.
 LIVERPOOL, MANCHESTER, SHEFFIELD, LEEDS, HULL, and
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HESLOP AND WILSON,
 IRON, METAL, AND GENERAL MERCHANTS,
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 40, DEAN STREET, NEWCASTLE-ON-TYNE.
 EVERY DESCRIPTION OF MACHINERY, ENGINEERS' TOOLS, &c. Portable and stationary ENGINES, MILLS, PUMPS, TURBINES, PATENT FANS, AGRICULTURAL MACHINERY, and IMPLEMENTS, STEEL TYRES, RAILS, &c.

COLLIERY STORES—Ropes, Spun Yarn, Waste, Leather, Shovels, Picks, Nails, Chain, Bar-Iron and Plates, &c. Solid Cast-steel Sinker's Hammers and Picks. Brass and Iron Tubes, Nuts, Bolts, Rivets, &c.

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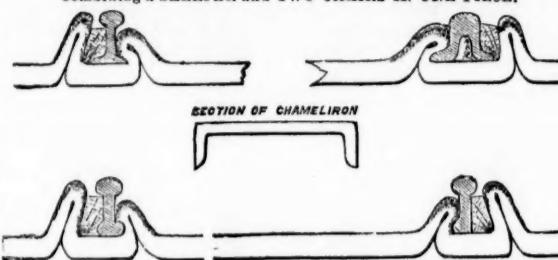
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THE NORTH SOMERSETSHIRE COAL FIELD.
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 OPINIONS OF THE PRESS.—"A work of great practical value to all interested in the development of a great South England Coal Field."—*Mining Journal*.—"The task of estimating the quantity of coal still remaining in the North Somersetshire Coal Field is very difficult. Here we have a very troubled field of geological enquiry, and of great perplexity and expense to the coal miner. Mr. Brice understands his subject, and his style of writing is clear and interesting."—*Colliery Guardian*.
 London : BEMROSE and LOTHIAN, 21, Paternoster-row; or post free from the Gazette Office, Tiverton.

Now in the Press.
A MINING ATLAS, DESIGNED TO CONVEY COMPLETE INFORMATION CONCERNING THE CHIEF MINING DISTRICTS IN GREAT BRITAIN AND THE UNITED STATES OF AMERICA.
 BY THOMAS SPARCO,
 GRESHAM HOUSE, OLD BROAD STREET, LONDON, E.C.
 The work contains surface plans showing the geological formation of the various districts, and longitudinal and transverse sections of some of the most important mines in the United Kingdom, with observation upon their position, character, and working. Geological and parish maps of Cornwall, Devon, Cheshire, and the Isle of Man, showing height of hills, &c., have been prepared with the greatest care. Maps intended to illustrate the progress of mining in North America have been executed with great fulness and punctilious exactitude. A map of the United States and territories shows the divisions of each, with the mining districts of Nevada, Colorado, Idaho, New Mexico, Wisconsin, and the line of railways connecting the Atlantic and Pacific. Mr. Whitney, Commissioner for the Union to the Paris Exhibition, prepared a map of the great mining region of Colorado for the occasion, and has presented the plates to the author, for this work. A surface map of California shows the position of the mines in that great mining region.
 The work will embrace explanatory notes, definitions, and illustrations of mining terms—such as shaft, level, cross-cut, sink, stope, end, rise, pitch, &c. The work will contain upwards of fifty maps, plans, and sections.
 Price, 10s.; by post, 10s. 6d.

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 Free for one stamp by H. JAMES, Esq., Percy House, Bedford-square, London.
 N. B.—MEDICINE AND FEES SUPERSEDED.
 Reference to the leading Physicians of the day.
 A TEST GRATIS. SEND FOR DETAILS.

IMPORTANT TO COLLIERY OWNERS, AND THE PROPRIETORS OF IRONSTONE, LEAD, AND COPPER MINES, TRAMWAYS, &c.
THE PATENT WROUGHT-IRON SLEEPER,
 Combining a SLEEPER and TWO CHAIRS in ONE PIECE.



The SLEEPER can be made to suit any required section of rail, either double-headed, flat-bottomed, or bridge, and the channel section of iron, of which the sleeper is made, can be manufactured of various breadths, and of weights varying from 6 lbs. to 20 lbs. per yard.

Among the advantages of the WROUGHT-IRON SLEEPER are—
 1.—The way can be laid more quickly, and with less manual labour.
 2.—The channel section of the iron sleeper beds itself more firmly in the ballast, with the most rigid accuracy of gauge.
 3.—The continued re-laying of rotten or broken wooden sleepers is no longer required.
 4.—The iron sleeper is cheaper in the long run than the wooden, which is proved by the fact that on the Continent, where the cost of wood is considerably less than in England, the iron sleepers are universally used.
 5.—All the losses or damages arising from the ordinary system, from the way getting out of gauge, chairs or sleepers breaking, chair fastenings becoming loose and injuring the horses' feet, are avoided.

For further particulars, apply to the Sole Licensees,—
GEORGE HOPPER AND SON,
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 BOLTS AND NUTS, BAR, ANGLE, AND TEE-IRON, RAILS,
 IRON SCREENS, CAGES, AND COAL TUBS.
 SMITH WORK AND FORGINGS OF EVERY DESCRIPTION.

TO COLLIERY PROPRIETORS.

UPWARDS of 6000 LARCH, 4000 OAK POLES, 200 OAK and OAK PLANKS upwards of 20 feet long; ELM COAL-PIT RINGS, ready cut, in stock.

All kinds of ENGLISH TIMBER supplied in the round, and OAK and LARCH SCANTLING cut to sizes for railway and coal-wagon building.

Dealer in all kinds of BRITISH TIMBER.

MILLWRIGHTS, ENGINEERS, COACH BUILDERS, WHEELWRIGHTS, &c., supplied on the most reasonable terms.

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WILLIAM HANN AND SON beg to offer to SUPPLY COLLIERY OWNERS, and the public generally, with their PATENT SAFETY LAMPS,

Which have been proved INEXPLOSIVE in the highest obtainable current of gas, of 48 ft. per second. No. 1 weighs 24 ozs., is simple in its construction, burns with a steady and nearly uniform flame in moderate currents, gives a good light, and is in every respect a practicable lamp. Price, 9s. each; if in quantities of a dozen or upwards, 8s. 6d. each, delivered free. Orders received by—

WILLIAM HANN AND SON,
 HETTON COLLIERY, FENCE HOUSES.

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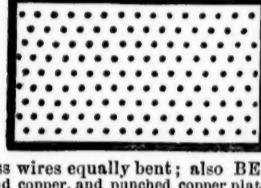
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Cook's Kitchen	15s.	15s.	Redmoor	28s.	31s.
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East Grenville	5s.	5s.	West Caradon	4s.	4s.
East Wheal Lovell	8s.	9s.	West Chiverton	49s.	50s.
Frank Mills	3s.	4s.	Buller	17s.	18s.
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Don Pedro (prem.)	3 16 3.	3 18 9.	Wh. Kitty (St. Agnes)	53s.	6.
Great Wheal Vor	17.	17s.	Wheat Mary Ann	17.	17s.
Great Laxey	19s.	19s.	Wheat Uny	33s.	37s.
Mark's Valley	8s.	9s.	Brynnostig	11s.	15s.
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PROSPECTUS.

The object of this company is to purchase the lease of and work a valuable tin mine, called South Polberrow, situated in the parish of St. Agnes, one of the best tin districts in the county of Cornwall.

The sett is bounded on the west by Great Wheal Charlotte, which yielded large profits; on the east by Polbreen; and on the north by Wheal Friendly, Wheal Trevannance, Polberrow, Wheal Kitty, and other celebrated tin mines. It is traversed by the productive lodes of Polbreen and Wheal Kitty, the latter paying regular dividends, and lies parallel with the enormously productive lodes of Polberrow, and other rich mines of the district.

In this sett there are several well-defined veins or lodes, all of which have produced large quantities of tin, and afford evidence of a highly mineralised property. A fine cross-course is in immediate proximity to that part proposed to be opened up, which can be rendered advantageous for cross-cutting to the various lodes.

A shaft has already been sunk 40 fathoms deep, which communicates with an adit driven on the course of one of the lodes, and which has been extended about 30 fathoms into the sett from the eastern boundary. In this adit for about 30 fathoms in length, the lode has been taken away on tribute, the excavations even reaching the surface.

The mine has been inspected by practical agents, whose reports fully warrant the shareholders in expecting most satisfactory results.

The peculiar advantages presented by this mine, are—first, its geological position, being situated on the junction of granite and killas, one of the most important features in the mineral-bearing districts of Cornwall. Four-fifths of the rich mines in the county are similarly placed, as shown in the following table.

MINES SITUATE ON THE JUNCTION OF GRANITE AND SLATE.

Name of Mine.	Paid.	Dividends.
Botallack	£ 18,250 0 0	£ 105,650 0 0
Carn Brea	30,000 0 0	280,500 0 0
Dolcoath	46,137 5 0	316,684 0 0
East Basset	18,944 0 0	67,512 0 0
Providence	11,568 13 4	98,700 0 0
St. Ives Consols.	10,106 0 0	461,070 0 0
South Caradon	640 0 0	313,600 0 0
South Frances	9,293 0 0	185,838 16 0
Tincroft	54,000 0 0	123,300 0 0
Tresavean	4,080 0 0	449,064 0 0
West Basset	10,500 0 0	160,200 0 0
Wheat Basset	2,624 0 0	326,912 0 0
Wheat Buller	14,464 0 0	237,824 0 0
Total.	£ 230,605 18 4	£ 1,223,238 16 0
Total dividends		£ 312,818 16 0
Paid-up capital		£ 230,605 18 4
Balance		£ 2,206,212 17 8

Profits in excess of paid-up capital, £2,296,212 17s. 8d., irrespective of present market value of shares.

Secondly.—The lodes traversing the sett have proved very rich in the mines immediately to the east and west of the boundary; while the workings in the granite have already opened upon good courses of tin, similar to those found in the mines to the east and west at the same depth, thus placing its value beyond doubt.—Thirdly.—The mine can be worked to a considerable extent without the aid of expensive machinery, there being sufficient water power for all practical purposes; and the rich lodes can be opened upon by the driving of adits about 60 fathoms deep, an advantage seldom met with in Cornwall.—Fourthly, It is within two miles of the shipping port of St. Agnes, rendering the shipment of ore easy, and the carriage of mineral cheap.

From what has been stated, it is obvious that the sett contains the great elements of success; it is surrounded by rich mines; there are several lodes of an unusually rich description traversing its entire length; the produce of tin has been rich and profitable, and there is a certainty that a further small outlay, would place it amongst the richest mines of the country.

Some fine specimens of the ore may be seen at the offices of the company. Prospects, plans, forms of application for shares, and every information, may be obtained of the secretary.

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THE MINING JOURNAL, RAILWAY AND COMMERCIAL GAZETTE.

[APRIL 17, 1869.]

THE MINING SHARE LIST.

BRITISH DIVIDEND MINES.

Shares.	Mines.	Paid.	Last Pr.	Business.	Total divs.	Per share.	Last paid.
1500 Alderley Edge, c, Cheshire*	10 0 0 ..	2 ..	10 6 8.	0 5 0 ..	Jan. 1869		
200 Botallack, t, St. Just	91 5 0 ..	250 ..	528	5 0 10 ..	Feb. 1869		
4000 Brookwood, c, Buckfastleigh	1 1 0 0 ..	..	..	0 12 6 ..	0 2 6 ..	Aug. 1869	
1000 Bronfloyd, t, Cardigan*	12 0 0 ..	..	..	10 17 0 ..	0 10 0 ..	Jan. 1869	
509 Bwlch Consols, s-l, Cardigan*	4 0 0 ..	3 ..	..	0 5 0 ..	0 5 0 ..	June 1869	
6400 Cashwell, t, Cumberland	2 10 0 ..	..	..	0 3 0 ..	0 1 5 ..	Aug. 1869	
916 Cargoll, s-l, Newlyn	15 5 7 ..	..	..	15 15 0 ..	0 10 0 ..	Jan. 1869	
1280 Chanticleer, t, Flint	0 7 8 ..	..	..	0 1 0 ..	0 6 ..	Nov. 1869	
2450 Cook's Kitchen, c, Illogan†	19 14 9 ..	17 1/2 ..	15 16 ..	2 4 6 ..	0 7 6 ..	April 1869	
509 Creegbrawse and Penkevill, t	..	..	..	2 5 0 ..	1 5 0 ..	April 1869	
867 Cwm Erbyn, t, Cardiganshire*	7 10 0 ..	..	..	30 3 0 ..	0 10 0 ..	April 1869	
1282 Cwmystwyth, t, Cardiganshire	60 0 ..	..	..	385	10 0 2 ..	Aug. 1869	
280 Derwent Mines, s-l, Durham	300 0 ..	..	..	177	0 2 ..	July 1869	
162 Devon Gt. Consols, c, Tavistock†	1 0 0 ..	..	..	1128	0 4 ..	Mar. 1869	
656 Ding Dong, t, Galvalt†	49 14 6 ..	..	..	2 0 ..	1 10 0 ..	Mar. 1869	
355 Dolcoath, c, t, Camborne	128 17 6 ..	500 ..	475 500 ..	884	10 0 ..	0 10 0 ..	April 1869
6142 East Caradon, c, St. Cleer†	2 14 6 ..	7 7 1/2 ..	..	14 11 6 ..	0 2 0 ..	July 1869	
800 East Darren, t, Cardiganshire	32 0 ..	..	..	166	10 0 ..	0 2 0 ..	Mar. 1869
1282 East Pool, t, c, Pool, Illogan	24 5 0 ..	..	..	457	10 0 ..	0 2 0 ..	Mar. 1869
1902 East Wheal Lovell, t, Wendron	3 9 0 ..	9 9 1/2 ..	..	4 11 6 ..	0 10 0 ..	Jan. 1869	
2800 Foxdale, t, Isle of Man†	25 0 ..	..	..	73	0 0 ..	0 10 0 ..	April 1869
5000 Frankilly, t, Christow	3 18 6 ..	3 3/4 ..	3 3/4 4 ..	3 9 6 ..	0 4 ..	Feb. 1869	
3950 Gawton, c, Tavistock	3						